

# **IQAC Manual**

**Govindrao Wanjari College of Engineering & Technology,  
Nagpur**

(Approved by AICTE & Affiliated to RTM Nagpur University, Nagpur and Dr Babasaheb Ambedkar Technological University, Lonere)



**Amar Sewa Mandal**



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**IQAC manual (First Edition)**



**INTERNAL QUALITY ASSURANCE CELL**



The IQAC Manual offers a set of guidelines and the processes to facilitate the functioning of the IQAC. It aims to improve quality of teaching, learning and research in institutions. It covers almost every aspect of operations of the quality assurance process within the institute and defines a comprehensive set of policy instruments and concepts to introduce an effective internal QA system. This also includes various useful QA guidelines for faculties and administrators.



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# 1. INTRODUCTION

## 1.1 ABOUT IQAC:

The recent changes in the realm of higher education, in keeping with national educational reforms and the challenges brought in by globalization, necessitates to actively engage in the development and implementation of quality benchmarks in all their key performance areas. The Institute was established in 2008 as a part of Amar Sewa Mandal group with the aim is to impart good education and to develop the complete personality of the students with an emphasis on moral values. The institution strives hard to shape the students in a way they will be an asset to the community and nation at large. To sustain its standards in education, institute has established the Internal Quality Assurance Cell (IQAC) to institutionalize the process of quality enhancement and sustenance in all the key areas.

IQAC functions as a central point for strategizing various Quality plans that relates to the faculty as well as the students of the institute. As rightly quoted by John Ruskin “**Quality is never an accident; it is always the result of intelligent effort.**”

## 1.2 GLOBAL PERSPECTIVE ON QUALITY ASSURANCE

Establishment of quality assurance system in higher education is a global concern now. There is a growing demand for quality assurance (QA) mechanisms at national, regional and global levels. Over the years, it is observed that there is an increase in the number of HE institutions and increased involvement of external stakeholders through changes in governance structures. The higher education institutions around the world have been introduced to quality assurance system internally with formal institutional approach and documentation. This has been done with the establishment of quality assurance agencies like accreditation bodies at the national level.

## 1.3 CORE VALUES:

**1. Integrity** : Integrity is the exercise of being truthful and showing a reliable and uncompromising devotion to strong ethical principles and values. We practice a shared decision-making process and promote trust through professional courtesy and fair treatment. Imbibe values of the institution



through dedication to one's work. Conduct all activities in an ethical manner. Commit to practices that are fair, honest, and objective in dealing with students, faculty members, staff, and stakeholders at all the levels of the community.

**2. Respect:** Respect is the essential foundation for working collaboratively. Institute recognizes the expertise of teaching and non-teaching staff and respect their contribution towards the institution. Institute value and respect the efforts of the staff as they contribute to the wellbeing of the society. Day to day interactions with students, colleagues, parents and other stakeholders are conducted honorably and respectfully.

**3. Diversity:** Institute believes in diversity and promote respect to all cultures by adopting inclusive work environments where people are valued for their cultures, experiences, skills, knowledge and capabilities. Institute provides culturally inclusive and responsive services to all the stakeholders. Institute encourages students to express the diversity on various occasion. People from various parts of the country are given opportunity to serve institution and contribute in varied ways.

**4. Excellence:** We strive for excellence in all our academic pursuits. We are committed to innovation in our teaching, research, and outreach to our communities. We commit to continuous self- improvement to achieve excellence in all our endeavors. We encourage our staff and students to strive to achieve their best. Dedication and practice is one, which helps us to surpass the ordinary standards, We continuously evaluate and improve programs, services, systems, and policies pursue excellence. We provide excellent learning environment that lead to the acquisition of knowledge and skills necessary to achieve, career advancement, personal enrichment, leadership, and service to the community.

**5. Quality:** Institution maintains good standards in teaching & learning, student centric support, encouragement for overall development of students and staff. We gear up ourselves to the changing needs of the society. We encourage creativity, innovation, and foster a learning environment that ensure program quality. To strengthen the overall effectiveness of curriculum, instructional delivery, and operations, excellent infrastructure is provided.



## 1.4 QUALITY IN EDUCATION

The graduates must come out of the institute/university equipped with requisite qualifications and skills that the society and the country need for achieving higher economic growth and prosperity. Here quality of graduates has been defined as, fitness of purposes (Woodhouse, 1999). Quality education includes :

1. Quality of learners with commitment and interest to explore their potentials maximizing the learning opportunities;
2. Environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities;
3. Content that is reflected in relevant curricula and materials for the acquisition of basic skills, attitude and knowledge referring for life;
4. Processes through which effective and student centered teaching learning and meaningful assessment to facilitate attainment of learning and reduce disparities; and
5. Outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society.

## 1.5 QUALITY ASSURANCE SYSTEM

Quality comes out of a well-structured process or system. This system refers institutional arrangements including infrastructure, evidence of good practices, and guiding principles for education. Quality assurance process determines whether the graduates achieved the predetermined standard in terms of knowledge, skills, attitudes and values that addresses the expectations of the stakeholders. The quality assurance process includes, designing academic programs with specific Learning Outcomes, strategies, implementation, and systematic review of the process to measure the effectiveness and continuous improvement.

## 1.6 Performance Indicators

Performance Indicators are key instruments for measuring the progress of planned activities. IQAC is responsible to introduce and implement the QA process within the university. Performance of the IQAC in conducting the activities and progress in attaining the specific objectives will be measured by using the pre-determined performance indicators based on work plan milestones.



## 2. Role of IQAC

Internal quality assurance system is composed of the arrangements within the institution to provide assurance of learning with confidence. Everybody working in an institution must be responsible and accountable to develop the quality culture. The implementation of internal QA mechanisms would create a sense of responsibility and a new awareness of process approach throughout the institution.

### 2.1 Major objectives of IQAC:

- To develop metrics to assess the effectiveness of curricular, co-curricular and extra – curricular activities
- To measure and document actual performance, determine deviations and provide feedback for improvement
- To establish quality circles in the various Colleges of the University and guide their functioning
- Benchmarking and preparation of comprehensive plan for further improvement
- To Promote a process of continuous improvement of the institute

### 2.2 Functions of IQAC:

- Monitoring the quality of all the activities.
- Creating Action Plan for the smooth conduct of academic activities throughout the year.
- Documentation of the various programmes /activities leading to quality improvement;
- Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;
- Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes; submitting Action Taken Report to the management for meaningful changes to be brought in order to make the existing system more relevant, objective and transparent
- Organization of inter and intra institutional workshops, seminars to improve the knowledgebase of the students and also to enhance their employability.
- Encouraging faculties to use modern technology in teaching like ICT integration, MOODLE
- Preparation of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC, to be submitted to NAAC.



- Motivating the faculty to acquire Ph.D. and engage in research activities for the benefit of society.
- MOU with reputed Academic institute and industries to enhance research activities, resource sharing, training of students.
- Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices:

## 2.3 Quality Policy

“To imbibe global standards of excellence in endeavors of Institute and to adhere with accountability towards society through best practices and techno economic prudence”.

## 2.4 Composition of IQAC

The composition of IQAC has internal as well as some eminent external experts well known in their chosen domain of expertise. They attend IQAC meetings and give valuable suggestions. They are invited as experts to the departmental presentations. The composition of the IQAC is as follows:

SR. NO.	CATEGORY	NAME	DESIGNATION
1	<b>Head of Institution</b>	Dr. Salim. A. Chavan, Principal Head of Institution	Chairperson
2	<b>Management</b>	Adv. Abhijit Wanjarri, Secretary, Amar Seva Mandal	Member
3	<b>Administrative Officers</b>	Dr. Manoj S. Motghare, Mechanical Engineering Department	Member
5	<b>Senior Teachers</b>	Prof. Avishkar. V. Wanjari, HoD, Electrical Engineering Department	Member
6		Prof. Ravindra Wakodikar, HoD, Civil Engineering Department	Member
7		Dr. Hemant Bhagat Patil, HoD, Mechanical Engineering Department	Member
8		Prof. Sameer Ashtekar, HoD, Electronics & Telecommunication Engineering Department	Member
9		Prof. Vivekanand Thakare, HoD, Computer Science Engineering Department	Member
10		Prof. Prashant Gumgaonkar, HoD, Information Technology Department	Member
11		Dr. Payal Pashine, HoD, MBA Department	Member
14		<b>Local Society</b>	Dr. G. K. Awari (Academic Expert, Government Polytechnic, Nagpur)
15	Mr. Naresh Shingane, Sarpanch, Chikna Grampanchayat		Member
16	<b>Industry</b>	Mr. Hitesh. M. Fulkari (Manager,	Member



		Bajaj Steel Industries, Hingna, Nagpur)	
17		Mr. A.P. Shendre, Manager, Mahindra Lifespace	Member
18	<b>Alumni</b>	Mr. Santosh Verma	Member
19		Mr. Nilay Hatwar	Member
20	<b>Student</b>	Mr. Vilap Bisen, CSE Deptt	Member
21		Mr. Amitkumar Gaddalwar, IT Deptt	Member
22	<b>Coordinator</b>	Prof. Avishkar. V. Wanjari	Member

## 2.5 Roles and Responsibilities Carried by IQAC Coordinator:

- To disseminate information on various quality parameters of institute to all stakeholder
- To coordinate the documentation of the various programmes / activities leading to quality improvement
- To coordinate the quality-related activities of the institution
- To coordinate in preparation of the Annual Quality Assurance Report (AQAR) to be submitted to NAAC based on the quality parameters.
- To coordinate the timely and efficient execution of the decisions of IQAC committee.



### 3. Quality Assurance Areas

**3.1 IQAC areas:** IQAC plays vital role in improving quality of academic and administrative processes and practices. It sets the benchmarks for various academic and administrative activities of the institution and every department will adhere to achieve the same. IQAC ensures quality enhancement at institute and develop quality culture in the institution. Ensure enhancement and coordination among various activities of the institution and disseminate good practices. Build an organized methodology of documentation and internal communication. It also acts as an apex at institute level and helps in adopting and dissemination of best practices.

#### A. Academic Monitoring:

1. **Curriculum** : IQAC will facilitate the integration of the procedure in redesigning and modernizing the curricula to accommodate the job market requirements. The curriculum plays a crucial role in achieving the mission and objectives of the institute including intended learning outcomes and overall effectiveness of the programs. Review process and involvement of major stakeholders with special attention to achievement of LOs, employability of the graduates, course evaluation by respective course teachers, identifying gaps and lapses in existing curriculum through curriculum alignment, initiative to close the gap;

2. **Teaching learning method**, in fact, sets the stage for everything in terms of learning outcomes. Efforts in this area pay great dividends in terms of attainment of learning goals and quality of education as well. Attainment of learning goals depends on the role and involvement of students and teachers in the process. Teachers need to be diligent in transferring new knowledge to the students effectively so that the goal of teaching succeeds. The teachers should use innovative teaching techniques to make the students keen, focused and interested to learn the subjects taught, and are able to maintain a scholarly approach for engaging students in academic activities.

3. **Use of Lesson plan:** Use of lesson plan is a growing practice in teaching learning internationally. It specifies the subject matter to be taught, learning objectives and assessment of that learning for each and every class. As a result, at the beginning of a session students become very clear regarding what will be taught, how it will be taught, how the attainment of



learning will be assessed and subjects they supposed to learn.

**4. Technology integration:** In this age of information technology work has become increasingly computer centric. As such, technology integration in teaching is very critical for quality in education. Technology integration in teaching learning will make it a lot easier and more effective to communicate ideas and complex subjects meaningfully in class rooms. In addition, use of technology in teaching will encourage students to access e-resources for studying, use computer for academic preparation and IT devices for problem solving. To achieve this , IQAC recommends faculty development programs to upgrade skills.

**5. Skill Development Mechanism:** It is required to keep in mind that education is all about to gain a set of skills. Such skills will make the graduates competent to face the reality of life, to develop the attitude of lifelong learning and to contribute in the socioeconomic development of the country. As such, teaching learning should not be confined within the class room only. Classroom learning is not enough to develop the desired skills.

**6. Student performance Assessment** Student Assessment is comprised of a set of activities to measure the attainment of learning outcomes. Assessment is a systematic process of collecting, analyzing and interpreting information to determine the extent to which learning objectives have been achieved. Assessment creates a basis for judgment on the performance of student. Thus, effective and appropriate performance assessment approach is very important to judge the level of attainment of learning outcomes and skill development. It needs to be confirmed that students are well informed about the criteria, processes, techniques, tools and rubrics that will be used to assess performance. Student performance assessment approach must be focused on higher order learning. IQAC take regular feedback from students and department on assessment and evaluation strategy

**B. Training & Placement:** Quality of graduates is mostly measured by the employability and extent of contribution to the organizations, community and national development.. All types of jobs are not necessarily suitable for all students. Career counseling and placement arrangement may play a very critical role to get the right job opportunities and selecting suitable career path. IQAC review training and placement activities to make sure students are getting guidance for higher education and career enhancement.

**C. Academic Audit** In addition to the self-assessment quality assurance uses internal audit and external audit from the university as the tool for monitoring the implementation of policies and evaluate the performance of the faculties and departments. Quality assurance audits are performed



in order to ensure that the systems are in place and are being followed properly. The IQAC shall conduct internal audit on a regular basis to ensure that the activities of the faculties and departments comply with the quality assurance framework and standards. During the audit the IQAC will collect all relevant information pertaining to the various activities of the concerned department or faculty, analyze the information collected for producing a comprehensive report. The faculty or department shall take the necessary steps to act upon the points raised in the report for the effective management of quality assurance at the faculty or department.

**D. Community Services:** The quality assurance system needs to ensure that the institute makes a significant contribution to the community, to the society and to the country. Community involvement is an effective way of understanding the social issues and working with people. Community involvement aims to improve students' knowledge, skills and confidence and organizational ability and resources. Community involvement makes an important contribution towards promoting lifelong learning, social inclusion and active citizenship. IQAC shall arrange program through NSS to inculcate sense of commitment and responsibilities toward society.

**E. Empowerment of staff:**

It is to be ensured that the staffs of all categories including academic, support, technical and administrative are adequate and skilled to meet the requirements of academic standards and strategies of teaching learning. Quality assurance recognizes the importance of training and development. Training is very important to enhance the professional skills of the staff and to keep them up-to-date with best practices in quality assurance. Institute has a well-organized staff development policy and programs for its implementation.

**F. Research and development**

The core objective of institute is to contribute to the sustainable development and improvement of society as a whole. It is undeniable fact that research forms the basis of creativity and innovation, which is regarded as critical for sustainable growth and development. Research also makes teaching learning effective and practice oriented. Institute has appropriate facilities and provisions to carry out research and also motivate faculty members and competent students to go for research and innovation.



## 4. Key initiatives of IQAC

### 4.1 Faculty Appraisal system:

There is a well-established faculty appraisal system with following objectives:

- a. Assess and promote excellence in the teaching-learning process
- b. Meet the educational needs of students by continually monitoring instructional performance
- c. Provide a constructive framework for evaluating faculty performance by identifying areas of strength and areas for improvement
- d. Provide a basis for professional growth and development of faculty members

Each faculty submits a faculty appraisal form and the same are consolidated by the Head of the Department. The Strength and Weakness of the faculty member in all the criteria are analyzed by the Head of the Department and the Head of the Institute and the same will be conveyed to the faculty member for further improvements. The self-appraisal scores with the recommendations of the Head of the Department and the Head of the Institute will be considered by the management.

### 4.2 Use of ICT:

Teaching has been strengthened by extending the facilities of LCD projectors, laptops/desktops, and Learning Computing Software, Internet connection, Wi-Fi in all academic areas including hostels/guest houses, Library etc to promote ICT learning. Teaching Learning Centre has been established. Moreover, NPTEL and, other Open Source Study materials are used for the purpose of teaching and learning. ICT & Other tools such as Web Online Public Access System (Web OPAC), Digital Library, Computer Based Retrieval of information, Reprography, Scanning, Laser Printing etc have been deployed for maximum access to the library collection.

### 4.3 Academic and Administrative Audit:

Upgrading academic and administrative processes is a continuous endeavor for the institution. As per the recommendation of IQAC, a standardized Academic and Administrative audit process is introduced from the year 2016-2017 with an objective of self and external evaluation and sustenance initiatives for maintaining quality.

A standardized format was prepared taking in to consideration all the aspects of academic and administrative inputs like departmental profiles, students' profile, workload, research details and teaching and evaluation processes. It also includes assessment of teachers by higher authorities in



areas of qualification, punctuality, regularity, accountability etc.

#### **4.4 Green initiatives:**

As part of green initiatives, activities to promote ecofriendly measures are undertaken. Energy Audit, Green Audit, Environmental Audit was conducted in the academic year 2023-24 with an objective of creating awareness regarding energy conservation, ensures the diversity of plants on an organization's campus, reducing ecological pollution and soil destruction and to find out means of reduction energy wastage. Simple measures like using two sides of paper for printing, using waste paper for rough work, only using the lights/fans when needed, shutting off lights in unused rooms etc are also practiced.



## 5. Strategic Goals and Quality indicators

The Internal Quality Assurance Cell (IQAC) along with (AMC) keeping in mind Vision and Mission statements as highest in the hierarchy of strategic intent. IQAC has prepared a strategic plan to enhance the academic, research, consultancy, extension, outreach, co-curricular and extra-curricular activities as against the set progress indicators and recommend the augmentation of necessary infrastructural facilities for achieving the long term goals and objectives of the department. These targets have been set with extensive consultation with all stakeholders – Faculty, student, alumni, parent and employer.

IQAC observe the following parameters to measure the performance of each department

### 1. Enhancing the quality of Teaching – Learning

- Academic calendar
- Teaching learning Plan
- Use of ICT in content delivery
- Assessment plan to achieve outcome
- Continuous assessment to measure outcomes
- Corrective measure to improvement teaching

### 2. Academic support for student

- Providing mentoring and counselling
- feedback Mechanism
- Support for weak and bright student
- Capability enhancement activities

### 3. Research culture

- Publishing Journals with UGC care, Scopus and SCI indexing.
- Research proposals
- funding received from different agencies
- Tie up with research organizations
- Patent/copyright filing

### 4. Entrepreneurship Development and Industry-Institution- Interaction

- Entrepreneurship Development Cell Activities to Provide training & guidance for entrepreneurship



- MoUs with training institutes
- MoUs with industries
- Support for internships, visits, trainings, guest lectures
- Identifications of industry needs and advice on curriculum
- Providing opportunities for Industry based/sponsored projects

#### **5. Training and Placement**

- Providing career and higher education guidance
- Pre placement trainings
- soft skill trainings
- Personality development training support
- Arranging campus placement
- Provide vocational training /job oriented training as per local needs at the institute

#### **6. Quality Assurance and sustainability**

- Framing of Quality Policy & publishing
- Educating & Training of all employees
- Periodic feedback from stakeholders
- Establishment of audit team and process
- Audit and remedial measures
- Identifying best practices
- Formation of committees for effective functioning
- Annual report preparation & submission

#### **7. Developing Physical Infrastructure**

- Smart Class rooms, Tutorials, Seminar halls
- Modernization of Laboratory & equipment
- Library infrastructure up gradation
- Establishment of Virtual lab and networking
- System up gradation
- Functional facilities for e-learning
- Safety & Security management
- Water facility
- Medical facility



- Developing sports ( indoor/outdoor) facilities
- Hostels facility

### **8. Eco friendly Initiatives:**

- Plantation
- Rain water harvesting
- Renewable Energy harvesting
- Hygiene, solid waste management (zero plastic usage, dry & wet refuse)

## **5.2 IMPLEMENTATION OF STRATEGIC DEVELOPMENT OBJECTIVES**

After approval of Strategic development objective by Governing Council the next step is its implementation. When being implemented, the progress of strategy shall be measured from time to time. Hence the measurable success indicators are clearly defined out in the implementation document. The IQAC along with other cells will be the custodian for strategic plan and its deployment.

## **5.3 MONITORING OF STRATEGIC PLAN**

The implementation of strategic plan will be monitored time to time by the Academic council through periodic review. The institution assesses the outcomes of the measurable indicators for different strategic development plan through a well-structured appraisal system. Each year the programme heads collect and consolidate the academic performance indicators from each faculty members. The benchmarking of quality standards and its monitoring, evaluation of attainment will be carried out by the IQAC independently. The IQAC will report the findings to the Governing council directly. With thorough analysis of outcomes and based on IQAC report, the Governing council will recommend the corrective actions, need of refinement of processes and deployment of resources. All these reports will be forwarded for further discussions and approval of Governing council.



## 6. Academic Audit

Quality assurance refers to the assessment and evaluation of ongoing processes, it monitors whether the system is properly working or not, and keeps the system on right track. Evaluation and assessment forms the basis of decisions to guide the quality assurance mechanism towards the achievement of objectives and mission.

The Institute has systematic and comprehensive approach towards monitoring and enhancing quality of teaching learning process. The major focus of academic audit is to bring quality in major academic processes through structured approach.

The academic audit process assesses how departments and faculty members organize their activities, utilize the available resources and coordinate the teamwork to provide best learning experience to the students.

### Stages in Audit

Conducting an audit usually comprises three stages, namely, pre-audit planning, conducting the audit and post-audit. These stages are described below:

#### Pre-Audit Planning

Planning for an audit is crucial to ensure that it is effectively carried out. IQAC's plan for an audit will include:

- IQAC shall prepare proposal for an audit/review of a specific faculty/department
- Timeline for the audit exercise from pre-audit planning to the submission of the final report;
- Select Members of the audit panel and terms of reference.
- Issue appointment letters to members of the audit panel with the terms of reference;
- Conduct an audit briefing for panel members.
- notifying the faculty or department to be audited:

IQAC shall inform the faculty/department/entity to be audited to take the necessary actions to make all required documents available for the audit as well as make other arrangements as required.

- The faculty/department/program offering entity shall update all documents such as course files using prescribed guidelines.



- Collect all relevant documents – student files and records, assignments, practical note books, question papers, sample answer scripts and such other documents related to the audit or as applicable.

### **Conducting the Audit**

Members of the audit panel shall visit the concerned faculty/entity to conduct the audit exercise according to the schedule. The audit at site enables panel members to locate and review evidences. The audit at site will be an opportunity for the panel members to view additional evidence that was not available earlier.

During the on-site audit, the panel shall attend a meeting before the review of documents commences and the exit meeting when the panel presents its draft report to the faculty at the end of the audit visit. The exit report represents the findings made by the panel members and will constitute the basis of the final report.

### **Post-Audit**

Following the audit, panel members are required to prepare the final report. This report will be submitted to the IQAC.

- a) Members of the panel meet to finalize the report;
- b) Discuss audit outcomes for inclusion in the report and preparing the draft report for the exit meeting;
- c) Finalize the report;
- d) Submission of the final report.

### **Reporting**

Reporting is an integral part of the Quality Assurance mechanism and is designed to help the university to manage and achieve the objectives in a controlled manner. Reporting helps to identify areas of weakness, potential problems and developing strategic plan to resolve those problems.



## 7. Guidelines for the quality Improvement

1. The role of QAC will be the effective monitoring of teaching Learning activity to improve the attendance, academic standard and to enhance the employability of the students.
2. Main Objective of QAC is to facilitate academic monitoring activity at college/department level.
3. Following Good Practices suggested to conduct and to motivate students.
  - i) **To link and conduct the practical as per the industry standards / requirements/ applications.** In this regards, a MOU can be signed with respective industries for technical support, which can be extended for the internships.
  - ii) **Project based learning** for certain subjects- Integration of some of the experiments in to one or many mini projects, so that student can learn a practical and its applications in real life scenario.
  - iii) **Peer based learning-** Many times some students are found to be technically sound and smart, the talent of such students can be utilized to demonstrate the practical to other students.
  - iv) Extra-curricular and Co-curricular activities must be carried out after 3.30 pm (after conclusion of day's teaching)
  - v) Regarding quality of laboratory journals were discussed and suggested to prepare journals in two parts.  
Part 1- for the student reference  
Part 2- for the Instructor (Instructor manual) comprising of calculations, results, inferences, conclusions, graphs etc.



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