

## ISO CERTIFICATION FOR TECHNICAL INSTITUTION

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### Abstract :

*Technical Education in Maharashtra is driven towards commercialization leading to mushrooming of colleges, and stiff competition. However, in most of the cases the direction relevance, and quality of engineering education have been questioned. I.T.I.'s are affiliated with many uncontrollable parameters like quality of input, Technical curriculum. Also external threats from Industries. who have a professional outlook and customer orientation, add to the industry pool especially in the technology area. Considering the dynamic external environment, rigid working system, stiff competition, decline of funds, reduction in the intake seats not being filled, and demand for accountability from stakeholders and customers, perspective of quality has crept in, and the need for a quality system is felt.*

**Keywords :** Total quality management, leadership, management, quality and teamwork.

### INTRODUCTION

The pursuit of quality improvement has been one of the education and institute biggest initiative and most sought after goal in the late twentieth century. It clearly is an important factor in competing successfully in the global market place. The mission and vision statement towards quality in the education process is as under.

#### MISSION

“To prepare competent need base Human resource and responsible citizen for Technical profession through dissemination of knowledge and development of technical skills.

#### VISION

“To become a bench mark technical institutions where learning is a joy, education is for tomorrow, R & D is pace setting and every one is committed to delivery competent human, resource for prosperity and well being of Industry, Profession and society.”

It is possible to achieve excellence and leadership in all our endures to enrich our customers by

- Impairing globally competitive Technical Education
- Creating competent, value based Professionals

#### QUALITY

While the traditional total quality programmes were developed for and are primarily used in production or Institute environment there is a growing trend to apply these programmes most, of them statistically based to the service and administrative areas as well.

Why is quality so important? Well is pleasing our customer is important to us and our organization and We submit it is the most important thing us can do then the quality of our product or service also will be an important concern of our product.

**LITERATURE REVIEW :**

This brief literature survey discusses some of the aspects of Total Quality Management. Text & paper covering all area of the subjects has been taken from the various publications, national & international journals & E-journals. Quality in the Communications process- Charles A. Sensstock, Jr. (i). To apply quality improvement technique to communication process which is a major part of quality improvement in educational institution. The pursued of quality improvement program an important factor in competing successfully in the global market place. What is Six Sigma? by Peta Pande and Larry Holpp. (ii). Six sigma has gained as having following amount existing for defects eliminates and product increases and dramatically increase customer satisfaction. The concept of six sigma is applied to industries to achieve customers satisfaction.

Jaideep Motwani, Ashok kumar written a article on the need for implementing TQM in education (iii) in which they looks at the applicability of TQM in education & some of the concerns addressed in the literature. Explores the different approaches used by several educational institutions in implementing TQM

J. William Ray Jr. & D.W.Yates in their literature Implementing TQM in the classroom : removing fear (iv) recounts the continuing efforts of the Louisiana Tech University EFT programme to implement Demings 14 points. They discussed the policies & its implementation, how it is presented to the students, measures of effectiveness, and various drawbacks of the policies. Marry Anderson presented paper on TQM in higher education (v) The aim of this paper is threefold : firstly, to look at the concept and meaning of the internationalization of higher education; secondly, to explore the issues of quality in the higher education sector and their relationship to the internationalization process; and, finally, to provide an overview of quality assurance systems within tech Australian and Swedish higher education sector.

Alexandros G. Psychogios & Constantinos Vasilios Priporas. (vi) Presented qualitative research on managers awareness of TQM in industry. This study addresses managers' awareness and familiarity with Total Quality Management (TQM). The major argument of the study is that although the acronym TQM and some of its concepts and practices are known by a range of public and private sector managers, actual awareness of its "soft" side is often superficial, and managers have a relatively poor understanding of it. TQM is neither resisted nor directly absorbed by them, but they tend to see it from the technical point of view, being aware only of the importance of its "hard" aspects.

Jamal K. Al-Dabal (vii) Throughout the different MBA modules, He thought a lot about the factors that give companies a competitive advantage. Since TQM was presented as one of the theories that lead to competitive advantage, He wanted to further investigate the validity of such a proposal.

V. P. Gosavi (viii) Suggested TQM in engineering colleges according to him recent developments in engineering education and advancement in several technologies demands excellence and wonders! The author has discussed implementation of TQM in engineering institutes elaborately injecting it, to all levels, with assurance of desired results, bridging the gap between expectations and outcome.

Bodireddy Mahalaxmi & B. S. K. Reddy (ix) Investigate the implementations of TQM in an educational system. Total Quality Management (TQM) is recognized as an important management philosophy and is widely used in all areas of educational systems as well as industrial processes. This paper discusses the essences of total quality management (TQM) concept. The implementation of total quality management towards the educational process is identified.

Peter Kia Liang Tan (x) Worked on evaluation of TQM and the techniques for successful implementations. He shows an in depth research focusing on the concerns of organizations in improving productivity and profitability levels by effective and efficient means using TQM.

Swapnil S. Deshmukh & Sanjay P. Salve (xi) Outlines the innovative techniques for teaching engineering graphics by applying TQM. According to them TQM is a philosophy and system for continuously improving the services and/or products offered to customers. TQM can help a school & college provide better service to its primary customers-students and employers.

A. Pal Pandi, U. Surya Rao & D. Jeyathilagar (xii) Studied the integrated TQM practices in technical institutions. The principles of TQM have been successfully adopted and applied in the field of higher education by developed countries such as Japan, USA and UK. In India, especially like IIT and leading technical institutions are practicing TQM philosophy. This paper studies the Integrated TQM in selected institutions in Tamilnadu. The result of this study can also be applied internationally with minor modifications based on culture and need in the institutions of professional learning.

Considering the global scenario employment opportunity, competition. It is desired to apply this technique to measure the performance and achieve excellence through this concept to the Industrial Training Institute. The continuous improvement focus of TQM is a fundamental way of fulfilling the accountability requirements common to educational reform. Innovative interactive techniques can be applied to improve the interest of students and teacher. Therefore, the climate for learning is improved. Different techniques can be used for teaching Engineering Graphics which are discussed in this paper.

### **Educational Leadership**

Leadership is an essential ingredient in TQM. Total quality should be a passion and way of life for those institutions who strive for TQM. An excellent leader needs the following perspectives :

- A leader should encourage innovation among staff and be prepared for failures.
- A leader should create a sense of family among staff, students, parents and teachers.

A good and committed leader who is entrusted with TQM should take the following steps to empower the staff.

- Involve teachers and all the staff in problem solving activities.
- Consult rather than instruct.
- Share as much information as possible to help foster commitment.
- Enquire about the systems and procedures, which are preventing the staff.
- Rejuvenate professional growth by shifting responsibility and control of professional development directly to the teachers and other staff.
- Develop skills in conflict resolution problem solving and negotiations among staff

The leader in an institution undertaking TQM should have the following objectives:

- To have a vision of total quality for the institution.
- To communicate the quality message to staff, teachers, parents, student, community.
- To ensure that the customer's needs are of primary concern to the institute, its policies and practices.
- To ensure that there are adequate channels for the voice of customers.

- To ensure that institutional structure clearly define responsibilities and Provide the maximum delegation compatible with accountability
- To be committed to remove artificial barriers, whether they arise from management policies or culture of the organization.
- To develop appropriate mechanisms for monitoring and evaluation of Success.

## **What is TQM**

### **What is Quality?**

Quality is generally defined as conformance to requirements. It is also conformance to a standard that is required. However, many consider that quality need not just be conformance to requirements but should be an assurance of being the best in the world of that type.

### **What is Total Quality?**

Total quality refers not only to the product but also to the way the product is made as well as presented to the customer. Total quality asks for customer orientation, process orientation, people management and leadership.

### **What is TQM?**

TQM is a people driven process. It involves changes in people's attitudes primarily. In addition, it deals with process orientation and continuous improvement of the process. It strives for empowerment and autonomy of the people involved in using processes of production. It asks people to continuously look for new ways to adapt to the changing environment.

### **Total Quality Management in Education?**

If TQM has been relevant for the industry in the second half of the twenty first century. People interested in education have to take on the leadership of applying TQM concepts and tools for a continuous improvement plan for educational institutions. Such people are those who are endowed with a commitment to education and a passion for work associated with such commitment. They can guarantee total quality in education.

### **TQM through Teamwork**

Teamwork is an essential component of the implementation of TQM, for it builds trust, improves communication and develops independence.

Institutions which become involved in TQM discover the benefits of having effective teams. TQM teamwork should include both academic and support staff and has to be used in a wide range of decision making and problem solving situations. TQM teams are not just there to administer various projects or activities.

### **Team Functions**

Quality improvement is hard work, and this is best approached with the support of others. The teams may have the following functions:

- Being accountable for quality of learning.
- Being a vehicle for monitoring, evaluating and improving quality.
- Acting as a conduit of information to the management on the changes necessary for improvisation.

### **Stages of team formation**

- Forming
- Storming

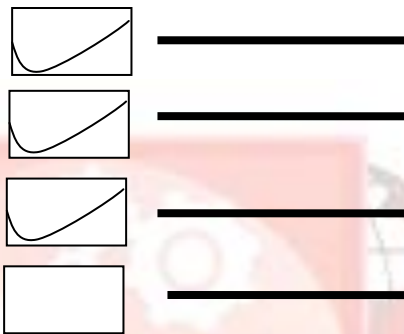
- Norming
- Performing

### Tools and Techniques for Quality Improvement

#### Tools and Techniques

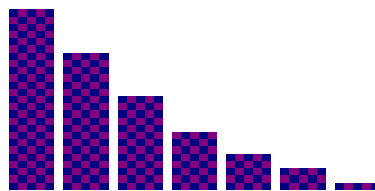
Quality control tools and techniques are the means of identifying and creatively solving problems. One of the powerful aspects of TQM is the bringing together of a range of useful tools. However, the power of the tools can only be experienced by regular use. Following are seven quality control tools (7 QC) usually mentioned in any guide of tools for continuous improvement and effective planning.

#### CHECKSHEET :



The function of a check sheet is to present information in an efficient, graphical format. This may be accomplished with a simple listing of items. However, the utility of the check sheet may be significantly enhanced, in some instances, by incorporating a depiction of the system under analysis in a simple item-wise form, which has to be referred to from time to time.

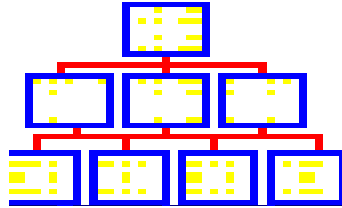
#### PARETO CHART



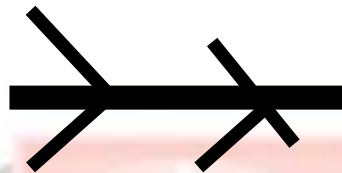
Pareto charts are extremely useful because they can be used to identify those factors that have the greatest cumulative effect on the system, and thus screen out the less significant factors in an analysis. Ideally, this allows the user to focus attention on a few important factors in a process. They are created by plotting the cumulative frequencies of the relative frequency data (event count data), in descending order. When this is done, the most essential factors for the analysis are graphically apparent, and in an orderly format.

## FLOWCHART

Flowcharts are pictorial representations of a process. By breaking the process down into its constituent steps, flowcharts can be useful in identifying where errors are likely to be found in the system.



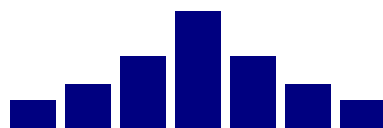
### Cause and Effect Diagram



This diagram, also called an Ishikawa diagram (or fish bone diagram), is used to associate multiple possible causes with a single effect. Thus, given a particular effect, the diagram is constructed to identify and organize possible causes for it. The primary branch represents the effect (the quality characteristic that is intended to be improved and controlled) and is typically labeled on the right side of the diagram. Each major branch of the diagram corresponds to a major cause (or class of causes) that directly relates to the effect. Minor branches correspond to more detailed causal factors. This type of diagram is useful in any analysis, as it illustrates the relationship between cause and effect in a rational manner.

### Histogram

Histograms provide a simple, graphical view of accumulated data, including its dispersion and central tendency. In addition to the ease with which they can be constructed, histograms provide the easiest way to evaluate the distribution of data.



### Additional Quality Control Tools

There are several other quality control tools which have been used by several institutions and organizations. The following are the new seven Quality Control tools.

1. Affinity Diagrams
2. Relations Diagrams
3. Tree Diagrams
4. Matrix Diagrams
5. Arrow Diagrams
6. Process Decision Program Charts

## 7. Matrix Data Analysis

### Volume of Work

A workforce who had been performing with a particular design will be unwilling to comply if asked to perform more. TQM would definitely demand more work from the workforce. It will ask for preparation of statistical documents. There will be a need for systematic evaluations. All these put together would amount to plenty of work for each member of the workforce. Therefore, TQ Managers have to design and define work in such a manner that the members of various teams are not burdened with the sheer volume of the work itself.

The increase in the quantum of work should be seen by everyone as a need for successful production or performance. This is possible only when problem solving techniques are used. Therefore TQM cannot be an order from the top to work more; it has to be a decision by every stream of the workforce.

### CONCLUSION :

After implementation of Total Quality Management there is tremendous change in the overall environment of the institute. Their counseling with the students resulted in increased admission rates. Prior to implementation of TQM the dropout % of the trainee was near about 20% But after implementation of TQM the environment & the quality of training was so improved that the drop out % was reduced to zero which was due to pleasant atmosphere & advanced training techniques adopted after TQM.

As during Implementation of TQM the industry institute interaction was developed which resulted in the increased % of the placement of the students. The maintenance cost is also reduced due to proper check up of the machinery in time which helped in proper training to the students.

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