

**QUALITY MANAGEMENT  
OM08/eOM08**

**Section-A (15 Marks)**

1. Juran defined "Quality as fitness for use or purpose". Critically evaluate the definition.
2. Explain Kaizen. Describe Kaizen process.
3. What are the dimensions of product and service quality?
4. Explain the steps involved in implementation of ISO-9000.
5. Customer satisfaction is core to organization. Briefly explain the idea behind the statement.
6. 'TQM requires a cultural change'. Comment on the statement giving the new and old elements in the change process.
7. Explain Statistical Process Control as a management tool for process improvement in TQM.

**Section-B (15 Marks each)**

8. Explain the benefits that accrue to any organization from Quality Management System.
9. What is 'Bench Marking'? How to do the same for an Insurance business?
10. Explain, from a quality control viewpoint, why companies that use JIT are very conscientious about maintaining their equipment in good condition.
11. Describe for what purpose and how a Cause-and-Effect Diagrams might be used.
12. Identify a company or organization from which you have received high-quality products and describe the characteristics which made it high-quality in the light of ISO Series.

## **Section-C (15 Marks)**

### **Case Study (Compulsory)**

#### **Company: XYZ Limited**

Starting twenty years ago the top management of the company made a commitment to use computer technology to streamline operations. It was understood at that time that much effort would be assigned to manufacturing and related processes such as inventory, warehousing, and order processing. In 2005 the decision was made to adopt quality management as the basis for company operations and to incorporate computers as tool for achieving this. Again, the focus was on manufacturing and related processes.

XYZ Limited produced sheet metal products for a variety of manufacturers. About half of total sales were comprised of metal housings for other manufacturers in the computer, electronic, small appliance, and automotive industries. Major processes consisted of cutting, bending, welding, painting and so forth. Sales were made on a special basis as well as from finished goods inventory.

The company has six branch plants with a statistical process control (SPC) coordinator at each plant who evaluates the SPC data gathered at the branch by each SPC team comprised of production workers. The critical factors that are traced are those related to manufacturing processes such as inventory, scheduling, on-time delivers, and return goods authorization (RGAs). These factors are tracked on-line and the results posted at headquarters monthly.

The critical factors were developed by the team with guidance from the coordinators. In addition to the critical factors there are 35 area measures that track such things as computer down-time, non-scheduled maintenance, or inventory accuracy. Because the Baldrige award criteria placed so much emphasis on data gathering, it was desirable to get every plant employee (called associates) involved in the job of gathering data. Periodically the need and value of the different measures were reviewed and some were dropped. For example, it was decided that the tracking of inventory items in the proper location and lost-time accidents was a poor idea because there were so few transactions that were meaningful. Other measures were added as time progressed, such as the number of customers below certain percentage of gross profit, so that these could be used as target for improvement. Delivery performance of all accounts, not just the top five, was added for tracking.

Each customer special order is defined in terms of customer specifications and the process defined and tracked. Processes could be outside of manufacturing. For example, if the specification is on-time delivery, then pulling the item from inventory and transportation is part of the process. Continuous monitoring and study of a process reduced failures, rejects, or rework.

Employees were extensively trained in problem solving, SPC and topics related to TQM. On-the-job training (OJT) teams were organized to study a process, and produce an “ideal process flow” that forms the basis for a standard operating procedure (SOP) and a specific job work instruction for each step in the process.

The company’s computer system is the load-bearing structure of the entire system. All plants have computers hooked into the mainframe at headquarters where SPC measurements are tracked. Most of the company’s orders come in via an electronic data interchange (EDI) system.

The EDI system allows the company to build relationships with customers as well as suppliers. It also reduces errors, improves cycle time, and allows just-in-time principles to work.

**Case Questions:**

- 13      (a)      What additional information systems, other than the ones mentioned, would you recommend for this company?
- (b)      Can SPC be used in process outside of manufacturing? For example, order processing, accounting, billing?
- (c)      is it good idea to “track” performance of plants at headquarters?
- (d)      Choose two or three measures that you think would be desirable and describe (1) objective, (2) Information needs (3) and information sources.