

**INDIAN INSTITUTE OF MATERIALS MANAGEMENT**

**JUN-2010**

**Post Graduate Diploma in Materials Management**

**Paper – 18.e**

**TOTAL QUALITY MANAGEMENT**

Date: 19.6.2010

Max Marks: 100

Time: 2.00pm to 5.00pm

Duration: 3 hours

**Instructions:**

1. The question paper is in three parts.
  2. Part A is compulsory. Each question carries one mark
  3. In part B answers 3 questions out of 5. Each question carries 16 marks.
  4. Part C is a case study with sub questions and it is compulsory.
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**PART A**

Q.1 State True or False.

Marks : 08

- a. First line supervisor resistance is one of the common barrier to Team progress.
- b. In order to create the empowered environment everyone must understand the need for change.
- c. In 1924, F.W. Taylor introduced statistic control charts to monitor production.
- d. Philip Crosby was the champion of 'Zero –defects' concept.
- e. Process improvement involves planning.
- f. The performance measures are not an important concept of Total Quality Management.
- g. W.G. Ouchi is famous for his work on "theory Y".
- h. PDPC is used when uncertainty exists in a process.

Q.2 Fill in the blanks.

Marks : 08

- a. Taguchi's methods incorporates the use of ..... techniques.
- b. .... engineering is an organizational tool that facilitates integration.
- c. Quality is a critical factor in ..... Performance.
- d. The most important asset of any organizations is its .....
- e. A good process design prevents ..... from occurring at all.

- f. Good ..... are a vital link in the supply chain.
- g. The ISO 9000 series standards is ..... in scope.
- h. Two basic types of cause & effect diagrams are ..... & process classification.

Q.3 Expand the following :

Marks : 08

- a) NAC
- b) EFQM
- c) QCI
- d)ZQC
- e) EAPS
- f) LTPD
- g) COQ
- h) FAST

Q.4 Match A & B :

Marks : 08

A	B
Tree Diagram	Four linked matrices
QFD	Basic requirement of ISO / QS 9000
Quality Policy	Information gathering tool
DFM	Inventory Control
Report card	Environmental Management system
ISO 14001	Prioritization of problems
Pareto analysis	Product innovation tool
Supply Chain Management	Systematic diagram

## PART B

Q. 5 Which are the Crosby's 14 steps of quality improvement plan? Marks : 16

Explain Crosby's six C's education process.

Q.6 a) State different types of control charts with their functions. Marks : 08

b) Explain what is Decision Analysis. Marks : 08

Q.7 a) Which are the Seven new tools of Quality Control. Marks : 08

b) Give detail classification of Quality Costs. Marks : 08

Q.8 a) Describe ten general attributes of Service quality. Marks : 08

b) Explain various Sampling Techniques. Marks : 08

Q.9 Write Short Notes : Marks : 4 x 4 = 16

a) Operating Characteristic Curve

b) Different types of quality audits.

c) Flow Charts

d) Environmental Management System

## **PART C**

### Case Study

#### PHILIPS INDIA LIMITED

Philips India Ltd., previously called Pieco Electronics Ltd., A MNC has Dutch parents and its major plant in Calcutta. The company is having sound corporate image in India for its electronic products, namely TVs, Radios, transistors, battery cells, electric bulbs, two-in-one etc., Indians love to have Philips products, which are more costly than various Indian electronic products brands, as they maintain a better quality. Philips operates through forward integration with its own authorized dealers network in India. The company has maintained its corporate image and reputation in Indian market over the years.

The labour trouble started in 1990. The company had its ancient production system in its main plant at Calcutta. Labour unions started agitating for salary hike and asked for a number of incentives and facilities to establish parity with other competing electronic giants. “ There was a political clout of the labour unions which leads to increased militancy ” says the Chief Executive Officers of the Philips India Ltd. The situation of labour trouble took such an ugly turn out of India by closing the plant.

In 1995, however , managers refused to give up & implement TQM. The first for which was total employees involvement. The management adopted the strategy of managing people through involving, empowering & motivating. The management re-established its future vision-to be an international design & production center & decided to benchmark with international quality system standards ISO 9000. The main weakness of the company during 1990 started converting into strength when labour unions started participating intensively. A number of self-directed and self managing mini, micro & mega-teams were formed and assigned responsibility and accountability under dynamic leaders.

By 1995 the Calcutta plant of Philips India became a model factory for its major competitors to envy – its operations & turnaround. The R & D section took the leading role for spearheading the company with its smart people & well equipped laboratories. The posters claiming “ Quality ” were exhibited in the premises & all working areas. All this made the Calcutta plant a showpiece in the premises of Philips. It became the company’s best bet for an international manufacturing centre. The progress due to

teamwork & quality orientation was so impressive that it led the company to achieve the internationally most coveted – The European Quality Award. The company also obtained certification of environmental management system EMS 14001 which gave it a further boost in improving its sagging image during the previous 4-5 years from 1990 onwards.

In a nutshell, five beliefs helped the management in its revival. These five beliefs are : i) mission statement ii) revolve around valuing iii) trusting & creating trustworthiness, iv) respecting the people and using their brainpower in teams, and v) continuously motivating them.

A few other things which helped the company are : propagating employees hip. TQM was used to bring about the much needed cultural change, open communication, sharing information, sharing problems openly, and an appeal to labour unions to uphold the pride of Calcutta. Moreover, the company started operating in 3 shifts instead of only general shift over the previous time period. The continuous improvement through structured Kaizen activities was adopted as a way of day-to-day work improvement in assignments. A suggestion scheme was suggestions. Cross-functional groups and small group improvement activities did surveys on employee motivation were undertaken to know & further boost the employees morale & participation in decisions of the company.

Focus on customer & their delight was increased by customer surveys, defect tracking, undertaking defect repairs, meeting the warranty claims, making after sales service better, customer help line documents, promptness in delivery, etc. Internal customer satisfaction was improved by strengthening internal supplier-internal customer chair with self-appraised vendor services. The inputs from the internal were obtained regularly for carrying out performance appraisal of the officers. The practice kept the officers on their toes.

“ Today, the company has not only recovered from its previous labour trouble but also has counted itself amongst the few world –class companies: It has obtained recognition the world –over by winning the most coveted award – “The European Quality Award ”, says the chief Executive of the company. “ Philips India Ltd. has become a benchmark for various competitors in India and abroad”, the CEO of the company adds further.

Q.10

Marks 4 x 5 = 20

- a. Discuss the various troubles which compelled the company management and its Dutch parents to decide to wind up the Calcutta plant ? What were the problems ?
- b. What strategy helped the company to revive its Calcutta plant & win the European Quality award?
- c. What are the other areas by which the company could have brought about total quality control?
- d. How would you apply Philips India Policy to help other electronics companies in India to implement TQM ?