



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Dec 2015

Post Graduate Diploma in Materials Management Paper 18.E (Old & New) Total Quality Management

Date: 19.12.2015
Time: 2.00 to 5.00 p.m

Max. Marks 100
Duration 3 hours

Instructions

1. The question paper is in three parts A, B & C.
2. Part A is compulsory. Each question carries one mark. Total : 32 Marks
3. In Part B, answer 3 questions out of 5. Each question carries 16 marks.Total : 48 Marks
4. Part C is a case study with sub questions and it is compulsory. It carries 20 marks.
5. Use of calculator is allowed wherever necessary.
6. Graph sheets can be used wherever necessary.

PART A

32 marks

(compulsory. Each question carry 1 mark)

Q. 1. Choose the correct answer from the multiple choices.

- i) Which of the following does not indicate top management commitment?
 - a) Providing direction for improvement
 - b) Providing resources
 - c) Demonstration by example
 - d) signing all documents
- ii) Identify the one that is not an improvement strategy
 - a) Repair
 - b) Review
 - c) Refinement
 - d) Renovation
- iii) Which of the following is not an example of the axioms of TQM culture?
 - a) Commitment
 - b) Involvement
 - c) Scientific knowledge
 - d) Prevention
- iv) Rework cost is
 - a) Prevention cost
 - b) Appraisal cost
 - c) Internal failure cost
 - d) External failure cost
- v) Steps in audit execution does include
 - a) Opening meeting
 - b) Examination & evaluation
 - c) Review
 - d) closing meeting

vi) The clause that represents management responsibility s per ISO 9001:2008

- a) Clause 4.0
- b) Clause 5.0
- c) Clause 6.0
- d) Clause 7.0

vii) QS 9000 is quality management system related to

- a) Automotive industry
- b) Telecom industry
- c) Software industry
- d) Electronics industry

viii) ISO 9000 certification audit is

- a) First party audit
- b) Second party audit
- c) Third party audit
- d) Surveillance audit

Q.2. Fill in the blanks. (Please do not reproduce the statement)

- a) Key to an effective TQM is its focus on _____.
- b) The stage in team building characterized by members working together is known as _____.
- c) Problem visualization with a view to identify waste elimination is _____.
- d) The technique used to present data into different groups is called _____.
- e) Probability of performance without failure is _____.
- f) The single most important act associated with quality control is _____.
- g) The concept of management by wandering around was developed by _____.
- h) The control chart that plots the variability of a process is _____.

Q.3. State True or False

- a) Employee involvement improves quality and productivity.
- b) Small q denotes a firm's focus on product quality.
- c) ISO 9000 is a total quality management system.
- d) An assessment of quality based on the reputation of a firm is an example of external quality.
- e) Value engineering ensures that a product will perform necessary functions without fail.
- f) More inspection is an effective corrective action.
- g) Supplier certification process verifies that a supplier meets or exceeds the requirement of a buyer.
- h) TQM is best expressed as striving to be best of the best.

Q.4. Match A and B

A	B
a) Involvement	1) Modular design
b) Heirarchy of needs	2) Unnoticed by customers
c) PDCA	3) Maslow
d) DFM	4) Assignable causes
e) Theory Z	5) Autonomation
f) Indifferent quality	6) Deming cycle
g) Control chart	7) Ouchi
h) Jidoka	8) Social aspects

PART B

48 marks

(Attempt any three. Each Question carry 16 marks each)

Q.5. a) Compare the teachings of Deming, Juran and Crosby.
b) What is meant by Kaizen?

Q.6. Explain in detail how the basic problem solving tools can be used to improve quality.

Q.7. XYZ organization is to be audited for its quality management system. Explain how you will carry out the audit highlighting various stages in quality audit.

Q.8. Differentiate between

- Indifferent quality and exciting quality
- Employee involvement and empowerment
- Quality control and quality assurance
- Multiple sampling and sequential sampling

Q.9. Write short notes on **any four**

- Concurrent engineering
- Quality Trilogy
- Dimensions of service quality
- Value analysis
- Fishbone diagram

Part C

Q. 10 Answer case study :

20 marks

At the Square D Corporation's Lexington, Kentucky, plant, about 800 workers have been reorganized into work teams of from 20 to 30 workers to assemble electrical control panels, switches, and transformers. Before the creation of work teams, employees would spend all day working on a single part over and over again, never seeing the end product. Now the plant has a new layout with each team operating a factory-within-a-factory. Each team does all the work on an entire product from start to finish and works like it is operating its own business.

The company used to spend more on painting buildings than training, but now it spends about 4 percent of payroll costs on training. Managers have also empowered the workers by giving them the authority to make decisions on the shop floor about all phases of production. Employees are trained to operate like a team, and it shows. They work together to fix machines when they break. They work together to make decisions about how to solve production problems when they occur. They are also trained to improve product quality, and it is working. Employees meet at the beginning of each shift to examine their quality performance. Each employee charts his or her accuracy every 30 minutes. The number of defects has been reduced by 75 percent, and the time it takes to get out customer orders has been reduced from six weeks to three days.

Questions:

1. Explain the role of training in building quality based on the case study?
2. Explain how reorganizing helped in improving quality?
3. What are the factors lead to the reduction in cycle time?
4. What do you understand by empowering employees?
