



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

June 2018

Post Graduate Diploma in Materials Management

Paper 18.E

Total Quality Management

Date 17.06.2018
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) Small q denotes

- a) Product quality
- c) Service quality

- b) System quality
- d) Process quality

ii) All are improvement strategy except

- a) Repair
- c) Refinement

- b) Redefine
- d) Renovation

iii) Which of the following is not associated with TQM?

- a) Customer focus
- c) Stringent inspection to achieve quality

- b) People
- d) Universal responsibility

iv) Warranty claim cost is

- a) Prevention cost
- c) Internal failure cost

- b) Appraisal cost
- d) External failure cost

v) Steps in audit execution does include

- a) Opening meeting
- c) Root cause identification

- b) Examination & evaluation
- d) closing meeting

vi) As per ISO 9001:2008 the clause that represents resource management is

- a) Clause 4.0
- c) Clause 6.0

- b) Clause 5.0
- d) Clause 7.0

vii) All are contributions of Shingo except

- a) Zero quality control
- b) Source inspection
- c) SMED
- d) PDSA

viii) All of the following are part of Taguchi's engineering design cycle except

- a) Feature design
- b) System design
- c) Tolerance design
- d) Parameter design

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

- a) Employee involvement is one approach to improving quality and _____
- b) The idea of _____ is to design product and processes so that it is impossible to make mistakes.
- c) _____ brings together representatives from various functional areas to simultaneously design a product and process.
- d) Noises are _____ which affect the signal.
- e) Pareto analysis helps in _____ of problem areas for improvement.
- f) _____ quality is the assessment of quality based on the reputation of the firm.
- g) An _____ plan is the overall scheme for either accepting or rejecting a lot based on information gained from samples.
- h) OHSAS 18001 is an _____ specification for Occupational Health and Safety Management Systems.

Q.3. Please state True or False

- a) Total quality management is a culture.
- b) Performing is the stage where members begin to work together in team development.
- c) Kaizen helps people in identifying foreseeable failure modes of a product or process and planning for its elimination.
- d) The components of Juran's trilogy are planning, measurement, and improvement.
- e) Imagineering is a technique to re-design work methods, and plant layout for the purpose of achieving major improvements.
- f) In the Big Q approach the focus of quality is on process rather than product.
- g) TQM efforts start at top management.
- h) Benchmarking is a method of changing business processes as per other company.

Q.4. Match A and B

A	B
1) Quality circles	a) SPC
2) Taguchi	b) Kano
3) Kaizen	c) Deming
4) Learning organization	d) Invest authority
5) Deadly sins	e) Masaaki Imai
6) Empowerment	f) Peter Senge
7) Control chart	g) Team
8) Exciting quality	h) QLF

PART B

48 marks

(Attempt any three. Each Question carry 16 marks)

- Q.5.** a) Elaborate the similarities and differences in the teachings of Deming and Juran.
b) What is meant by four absolutes of quality and zero defects?
- Q.6** a) What is a control chart? How it helps in the quality control of processes?
b) Explain the concept of acceptance sampling.
- Q.7** a) Explain quality costs with the help of PAF model.
b) Explain briefly the seven new QC tools.
- Q.8.** Differentiate between (Any two) (2 x8 = 16 marks)
a) Big Q and small q approach to quality
b) Innovation and continuous improvement
c) Prevention costs cost and appraisal costs
d) Single sampling and double sampling
- Q.9.** Write short notes on any four (4 x 4 = 16 marks)
a) Environmental management system
b) Quality improvement tools
c) Dimensions of quality
d) ISO 9001:2008 QMS
e) Taguchi's contribution to quality

Part C

(compulsory)

Q.10. Yule Cables Ltd. is Rs 50crore cable manufacturing company located in NIODA near Delhi. The main customers of the company are government departments. The company employs 30 people out of whom 22 are in the operator cadre and 8 are in the executive level. The company uses traditional carrot and stick method to extract work from the employees. The operators are not very much qualified and close supervision is employed to ensure timely completion of work. Quality is not given any importance as the supply is mainly to government departments. Mr. Yash, the Managing Director and owner of the company rarely visits the factory. He has the given the complete responsibility of running the factory to the General Manager.

Of late the company is experiencing shrinkage in the business. One of MD's friends suggested him to get ISO certification to enter into new markets other than government departments. As a result Mr. Yash invited an ISO 9000 consultant to his office for discussion. In the discussions, which took an hour, the consultant emphasized the need for training the employees and a time frame of 2 to 3 years before applying for certification. MD wanted to train only the executives and he felt the time spent on training the operators as waste. He also informed the consultant that he would be willing to spend any amount of money to get the certification as quickly as possible. He wanted the consultant to start the work immediately and introduced him to the General Manager. He told the consultant that he could take any help from the General Manager, as he would be busy all the time

Questions:

1. Explain the steps the consultant should take to get the company certified.
2. Write a suitable quality policy and draw a quality plan for the company.
3. Analyze the company's quality culture.
4. Why training the workers are important?
