



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management-3 years/lateral
Paper 18.E
Total Quality Management

Dec 2019

Date 29.12.2019
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. Graph sheets can be used wherever necessary.

PART A

32 marks

(compulsory. Each question carry 1 mark)

Q.1. Fill in the blanks. (Do not reproduce the statement) [8 marks]

- a) The key to an effective TQM programme is its focus on _____.
- b) "You cannot inspect quality into a product, you must _____ it in".
- c) Problem solving techniques using problem visualization with a view of identifying ways for waste elimination is _____.
- d) The probability of performing without failure for a specified period of time is _____.
- e) Supplier _____ is a detailed examination of the policies and capabilities of a _____ supplier.
- f) Jidoka is the Japanese name for _____.
- g) The quality management system specifically designed for telecommunications industry is known as _____.
- h) Zero defect principle is that robustness derives from _____.

Q.2. Please state True or False (Do not reproduce the statement) [8 marks]

- a. Quality and productivity are not mutually exclusive.
- b. Concurrent engineering is an organizational tool that facilitates integration.
- c. Big Q denotes product focus on quality.
- d. Perceived quality is the quality that the customer does not appreciate.
- e. Quality control is comparing actual quality with predetermined standards.
- f. TQM efforts should start from the bottom of the management.
- g. Assignable cause means that there are meaningful factors that need to be investigated.
- h. The ability of a sampling plan to discriminate is described by its OC curve.

Q.3. Expand the following

[8 marks]

- | | | | |
|---------|---------|----------|----------|
| a) MBWA | b) CWQC | c) CEDAC | d) PDPC |
| e) ZQC | f) LTPD | g) AQL | h) OHSMS |

Q.4. Match A and B

[8 marks]

No	Column A		Column B
1	Design for manufacturing	A	Total quality
2	The spiral of progress	B	Relationship between variables
3	Signal to noise	C	Benchmarking
4	Warranty	D	External conditions that produces dissatisfaction
5	Scatter diagram	E	Juran
6	Outperforming the best	F	Orthogonal arrays
7	Customer focus	G	Framework to develop product and process designs concurrently
8	Mess	H	Public promise of a quality product

PART B

48 marks

(Attempt any three. Each Question carry 16 marks)

- Q.5.** a) Explain conventional quality and total quality. [8 marks]
b) Explain concurrent engineering. [8 marks]
- Q.6.** a) What are the four absolutes of quality? [8 marks]
b) Explain the determinants of quality. [8 marks]
- Q.7.** a) Explain the use of control charts in improving quality. [8 marks]
b) Explain quality function deployment. [8 marks]
- Q.8.** a) Explain costs of quality with examples. [8 marks]
b) Briefly explain process capability. [8 marks]
- Q.9.** Write short notes on any four[4 x 4 = 16 marks]
a) Value analysis
b) Problem solving process
c) Matrix diagram
d) Quality trilogy
e) The Deming prize

Part C

(compulsory)

Q. 10 Read the case and Answer the questions

20 marks

(Case Study)

Q.10. Yule Cables Ltd. is Rs 100 crore 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 1 to 2 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. Draw a road map to get the company certified.
2. Write a suitable quality policy and draw a quality plan for the company.
3. What is the quality culture existing in the company.
4. How the consultant should go about preparing the company for the certification?
