



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management - 2 years

PAPER No. 18(enrolment code- CPM)

Total Quality Management

June 2023

Date : 22.06.2023

Time : 10.00 a.m. to 1.00 pm

Max. Marks: 70

Duration : 3 Hrs.

Instructions:

1. From Part A, contains 4 main questions (with 5 sub-questions) each question carries 1 mark Total of 20 marks
2. From part B answer any 3 questions out of 5 questions. Each question carries 10 marks – A total of 30 marks
3. Part – C is a case study with 3 sub-questions. Read the case carefully and answer the questions with 20 marks

PART – A(compulsory) [20 marks] Attempt all questions. Each sub-question carries 1 mark.)

Q.1 Select the right answers from the given choices [5 marks]

- a) The focal point of Quality Control should be -----
- (i). Price Focus
 - (ii) Cost Focus
 - (iii) Customer Focus
 - (iv) Manufacturing Focus
- b) Which of the following statements regarding Quality Assurance (QA) is **WRONG**?
- i. QA is process-oriented.
 - ii. QA focuses on defect investigation.
 - iii. QA is pro-active.
 - iv. QA is a managerial tool.
- c) ISO 9001 is specifically applicable to
- i. Any organization of any size
 - ii. Only manufacturing sector
 - iii. Only service sector
 - iv. Only export-oriented units
- d) PDCA Cycle was introduced by -----
- i. Deming
 - ii. Ishikawa
 - iii. Shewart
 - iv. Juran
- e) Which of the following is **NOT** a type of Quality Audit?
- i. Customer Satisfaction Audit
 - ii. Product Audit
 - iii. Process Audit
 - iv. System Audit

Q.2. State True or False [5 marks]

- a) The X-bar chart measures monitors natural variability
- b) When the process variability is within the specification, a large percentage of products may not meet the specifications.
- c) Quality at Source is one of the Lean Manufacturing Concepts.
- d) Total Productive Maintenance is a set of strategic initiatives for improving quality of production
- e) Malcolm Baldrige National Quality Award is awarded by the National Award Committee

Q.3 Abbreviations – expand it [5 marks]

- a) COQ b) ECL c) A.S.Q. d) BSC e) TBM

Q.4 Match the following**[5 marks]**

	Column A		Column B
1.	Ishikawa	A	Random cause
2.	Inherent variability	B	Work-related problems
3.	ISO 14001:	C	Reliable and accurate data
4	Performance Measurement	D	Cause and Effect Diagram
5	Quality Circles	E	Environmental Management System

PART B {30 marks]**(Attempt any 3. Each question carries 10 marks)****Q 5.**

- a) "TQM is a pro-active approach to satisfy the needs of customers". Explain this statement indicating the points you will consider while implementing TQM in an organization. **(5 marks)**
- b) What are "Control Charts"? How do they help in monitoring quality? Explain with a neat diagram. **(5 marks)**

Q 6.

- a) Explain the concept of "Statistical Process Control" (SPC). Enumerate the main objectives of SPC. **(5 marks)**
- b) Explain with neat diagrams the relationship between process capability and design specifications. **(5 marks)**

Q 7.

- a) Distinguish between QC and QA. What are the principles on which QA is based? What are the elements of QA program? **(5 marks)**
- b) Briefly discuss the concept of Quality Management Systems with reference to ISO 9000 family of Standards. **(5 marks)**

Q 8.

- a) What are "Quality Circles"? Discuss the objectives of Quality Circles and how do they benefit an organization? **(5 marks)**
- b) Briefly discuss the criteria for Performance Measurement. **(5 marks)**

Q 9. Write short notes on any two. (2 x 5 = 10 marks)

- a) Balanced Score Card
- b) Deming Prize
- c) Quality of Work Life
- d) Pareto Charts

PART C**[20 marks]****Q 10.** Read the case given below carefully and answer the questions at the end.

M/s. Lala Machinery Pvt. Ltd. is a company having turnover of Rs. 100 crores per year and employs 50 workers and staff. They have achieved a significant breakthrough in Design, Manufacture, and Marketing of plastic molding machines and equipment and enjoy a good market in India and abroad. The company now feels to enlarge its functioning to capture more of European market as it was rewarding. However, the customers in Europe wanted their supplier to comply with the requirements of ISO 9000, besides providing good quality product. They also gave preference to suppliers who were implementing TQM.

The owner of Lala Machinery carried out a complete analysis of the functioning of his company with respect to others and observed that productivity in his company was low for many reasons. The existing organization structure was extremely thin and vertical. Quality function was not adequately deployed. There was an immediate requirement of organizing and grouping of functions, defining role for all managers and staff and deployment of quality function. To start with, he decided to obtain certification of ISO 9001 to meet requirements of an international standard.

Questions

- a) What prompted management to obtain ISO 9001 certification?
- b) Draw a road map for obtaining ISO certification for the company.
- c) Draw a suitable organization structure for the company including quality function deployment and its role at various levels.
- d) Develop a quality policy for the company.
- e) Suggest a road map to work for implementing TQM.