



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Dec 2018

Post Graduate Diploma in Materials Management Paper 18.E Total Quality Management

Date 30.12.2018
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. Expand the following

- a) QLF
- b) MTTR
- c) ZQC
- d) SAGE
- e) PDPC
- f) CEDAC
- g) SPC
- h) GPNQA

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

- a) In a TQM company _____ are advocates of change.
- b) _____ is meeting and exceeding customer expectations.
- c) Special characteristics that appeal to customers are called _____.
- d) The stage in team building characterized by members working together is known as _____.
- e) _____ refers to the restoration of a product or service once it has failed.
- f) An assessment of quality based on the reputation of the firm is termed as _____ quality. .
- g) A _____ is defined as a system of external conditions that produces dissatisfaction.
- h) The effort to reduce cost and or improve the performance of a component is known as _____ analysis.

Q.3. Please state True or False

- a) Suggestion scheme is an employee empowerment tool.
- b) Big Q denotes a firm's focus on product quality.
- c) Management by participation and demonstration are examples of commitment.
- d) Processes are means by which inputs are transformed into outputs.
- e) Check sheets provide a systematic means of collecting and analyzing data.
- f) Quality measurement is the price of non-conformance.
- g) Possession of the required skills and knowledge to perform is competence.
- h) Benchmarking is best expressed as striving to be best of the best.

Q.4. Match A and B

A

- a) QFD
- b) Source inspection
- c) Affinity diagram
- d) SGA
- e) Histogram
- f) JIT
- g) Warranty
- h) 7S model

B

- 1) Mc Kinsey
- 2) Public promise
- 3) Presentation of data
- 4) Shingo
- 5) People involvement
- 6) House of quality
- 7) Management tool
- 8) Waste elimination

PART B

48 marks

(Attempt any three. Each Question carry 16 marks)

- Q.5.** a) Explain the principles of total quality.
b) Enumerate the determinants of quality.
- Q.6.** a) What are the contributions of Shiego Shingo to quality.
b) Explain the concept of benchmarking.
- Q.7.** a) Explain the stages of quality audit.
b) Explain process capability.
- Q.8.** Differentiate between (Any two)
a) Internal failure cost and external failure cost
b) Big Q and Small q
c) Continuous improvement and innovation
d) Indifferent quality and exciting quality
- Q.9.** Write short notes on any four
a) Types of quality
b) Quality Trilogy
c) Theory Z
d) Stages of team development
e) Deming prize

Part C

(compulsory)

Q. 10 Read the following case and answer the questions :

20 marks

Originally called the Swallow Side Car Company; Jaguar Cars was founded in 1922 and became famous for its luxury and sports cars. In 1990, Jaguar was taken over by Ford and is now a wholly owned subsidiary. At the time of the Ford takeover, Jaguar's quality performance was something of a paradox. Aesthetically and in terms of on-the-road performance the cars were often highly regarded, especially by a hard core of enthusiasts. Yet even they could not ignore Jaguar's reputation for making cars which were, in comparison to its rivals, of exceptionally poor reliability. Plagued by under-investment and a conservative technical-led, rather than customer-led, culture, the company's old plants were struggling to achieve even acceptable levels of conformance quality. At this time, the JD Power survey of customer satisfaction of cars imported to the US ranked only one car (the Yugo) lower than Jaguar.

All this changed through the 1990s. The company invested heavily in training, especially in quality techniques such as statistical process control. Piecework was abolished, as was 'clocking in' and a general productivity bonus introduced which encouraged flexible working. Other shop floor initiatives included the introduction of multi-skilled teams, total productive maintenance, continuous improvement teams and benchmarking against the best in the business. The success of this quality improvement programme was dramatic. It encouraged Ford to invest in new Jaguar models and also had a significant impact on customer satisfaction. The same surveys which once put Jaguar at the bottom of the league now rank it in the very top group of luxury car makers.

Questions:

- a) What does 'quality' mean for a motor vehicle manufacturer such as Jaguar?
- b) How did the changes which Jaguar made to its operations practice affect the quality of its products?
- c) What initiated the changes in the company?
