

QUESTION 7

Cause and effect diagrams can support team focus in capturing the root causes of a given problem. They can help in development of solutions to problems.

- (a) Construct an Ishikawa diagram based on an issue of your choice. Show typical primary and secondary cause issues under each of your chosen branch headings.

(12 marks)

- (b) Discuss how you would prioritise each suggested root cause in order to tackle the overall issue if you were leading a team in this technique.

(8 marks)



Chartered Quality Institute

CQI Examinations June 2012

Unit 305

Using Quality to Improve Business Performance (Level 3)

21 June 2012

Time: 9.40 – 12.10
(2½ hours)

Notes for candidates

At 9.30, you have 10 minutes preparation time before the exam begins. Your exam booklet will be handed out at 9.40.

Attempt **ALL THREE questions** in **Section A**. Attempt **any TWO** questions from **Section B**. If you attempt three or more questions in Section B, only the first two will be marked.

Questions may be attempted in any order. All questions carry equal marks. The maximum marks for each part of each question are shown.

Begin each question at the top of a fresh side of paper. Do not write in the margins.

If you use any additional sheets (i.e. graph paper or additional answer booklet) please write your CQI student number, examination name and date on each sheet.

SECTION A – ANSWER ALL QUESTIONS

QUESTION 1

Brainstorming can be an extremely effective tool for capturing the reasons for particular quality issues and identifying potential solutions.

(a) Describe how a typical brainstorming meeting would be run and how the output from the meeting could be grouped to make its use more effective.

(14 marks)

(b) List **THREE** possible constraints that could limit the effectiveness of a brainstorming session.

(6 marks)

QUESTION 2

Process mapping is a tool commonly used in continuous improvement programmes to help visualise complex operations.

(a) Produce a process map using recognised symbols to show a typical sales process, from receipt of an order through to delivery of a manufactured product or service. In order to clarify responsibilities, show 'swim lanes' on the process map.

(11 marks)

(b) Describe how process mapping can bring particular benefits to a business in the following three areas:

- (i) Identifying improvement opportunities
- (ii) Training
- (iii) Standardisation and support for Quality Management Systems.

(9 marks)

QUESTION 3

Continuous improvement teams, such as those utilising the quality circle approach, are characterised by effective use of a wide range of problem solving tools and techniques.

Describe and illustrate **FIVE** different data analysis tools that could be employed by a process improvement team.

(20 marks)

SECTION B – ANSWER TWO QUESTIONS ONLY

QUESTION 4

You have been asked to lead a project team to investigate a process which has inherent problems; leading to the production of excessive numbers of out-of-specification products.

Explain the approach you would take in leading this project, from the identification of the underlying causes of these problems through to process improvement.

In answering the question, discuss the quality tools you would use at each stage.

(20 marks)

QUESTION 5

In developing all but the most basic products, a systematic approach to the evaluation of new designs is essential to reduce the risk of high warranty or safety-related failures.

You have been asked to lead a team in evaluating risk of a new product design. Describe the approach you would use and illustrate the tools you would employ to minimise the risk of launching a poor quality product, or one with an inherent safety issue, onto the market.

(20 marks)

QUESTION 6

You have been asked to run an improvement team to address deterioration in the quality of a manufactured product or service delivery.

Choosing a structured improvement process you are familiar with, describe the stages such a project would take. At each stage, describe the appropriate problem identification and/or problem solving tools you would use to make this approach effective.

(20 marks)

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