

QUESTION 6

There are many solutions to the practicalities of data collection but, if not given due consideration, it can become over-burdensome on employees.

- a) List **five** criteria for selecting what data should be collected. (5 marks)
- b) List and define **five** pieces of information that should appear on the data collection/ inspection record. (5 marks)
- c) Give **five** examples of how data can be used. (5 marks)
- d) Give **five** examples of how data can be displayed. (5 marks)

QUESTION 7

Interpreting data and making conclusions or recommendations on results is an important follow-on from data collection.

- a) Name **two** tools/techniques that can be used to assist in the interpretation of data and describe, with a diagram, how they are used. (10 marks)
- b) Name and discuss the advantages/disadvantages of **two** methods of storing and sorting data that has been collected for inspection/monitoring purposes. (10 marks)



Chartered Quality Institute

CQI Examinations June 2013

Unit 303

Monitoring and Measuring for Quality (Level 3)

20 June 2013

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.

Candidates must show all their working out for any calculations.

SECTION A – ANSWER ALL QUESTIONS

QUESTION 1

Data collection is an important part of quality assurance. A data collection method is the where, the how and the why. Here are some examples of data collection methods:

- Process measures
- Key performance indicators
- Surveys
- Periodic sampling
- In-process inspection

- a) Give a practical example of the use of each of the five data collection methods listed above. (10 marks)
- b) From the list of five data collection methods above, describe, in detail, **two** of the methods. (10 marks)

QUESTION 2

There are a number of tools that facilitate data collection. A data collection tool is how the data is acquired and recorded. Here are some examples of tools for data collection:

- Inspection and test records
- Automatic data collection
- Time based records (processing speed)
- Database queries and reports/data mining
- Check sheets/tally sheets

- a) Give a practical example of the use of each of the five data collection tools listed above. (10 marks)
- b) From the list of five data collection tools above, describe, in detail, **two** of the tools. (10 marks)

QUESTION 3

The factual approach to decision making is a requirement of the ISO 9001 standard.

- a) Describe the quality principle ‘factual approach to decision making’. (5 marks)
- b) Describe how and why KPIs are used in an organisation. (5 marks)
- c) Give a detailed description of how the person responsible for staff training in an organisation would use the factual approach to decision making. Your answer should include **two** examples of techniques used. (10 marks)

SECTION B – ANSWER TWO QUESTIONS ONLY

QUESTION 4

Stratification factors is an important technique that can be used for selecting what data to collect and interpret when inspecting/monitoring a product or service to assure the required output measures for product/service quality.

Describe and discuss this technique, illustrating your answer with a diagram, from the VOC (voice of the customer) to product/service data collected during the manufacture/delivery of the product or service.

(20 marks)

QUESTION 5

Two very different inspection/monitoring techniques are used when you manufacture piece part products yourself as opposed to the same items being manufactured by others, under contract, and delivered to you in batches.

- a) Describe the **two** different inspection/monitoring techniques required.

(6 marks)

- b) Discuss and explain the reasons for using these two different inspection techniques, relating the technique used to how the piece parts are acquired.

(14 marks)