



Oxford Cambridge and RSA

Thursday 16 January 2020 – Afternoon

Level 3 Cambridge Technical in Applied Science

05874 Unit 22: Global scientific information

INSERT



INSTRUCTIONS

- Do **not** send this Insert for marking. Keep it in the centre or recycle it.

INFORMATION

- This Insert contains the pre-release material that you have already seen.
- This Insert has **4** pages.

Pre-release research brief

You should carry out your own research on the themes given in this research brief. Your research will help you to prepare for your examination.

Your research is only for your own use. You must not bring your notes into the examination. A clean copy of this research brief will be provided in the examination.

In your research you should consider the following themes.

- scientific information gained from laboratory quality assurance (QA) tests
- reasons for transmission of scientific information
- information classification
- characteristics that determine the quality of scientific information
- the importance of good quality information
- data protection legislation in the UK
- the confidentiality of information.

The questions in Section A of the examination will require you to draw on the knowledge and understanding which you have gained while researching these themes.

Instructions:

Read the following page of information.

Carry out your own research on the themes given above.

TriboCeram

Organisational profile

TriboCeram (TC) is an engineering services company. The company has two divisions: Manufacturing Services Division and Laboratory Services Division.



The Manufacturing Services Division receives metal components from TC's customers and applies a range of treatments to them, including:

- heat treatment
- ceramic surface coatings

These treatments enhance the mechanical and wear-resistance properties of components that are used in advanced manufacturing and hi-tech products.

TC's customers include large aerospace companies and manufacturers of medical equipment.

TC has an excellent reputation for its work with customers at the design stage and for its ongoing management of cost, quality and delivery.

The company bases its ceramic surface coating technologies on the findings of academic research. It continues to support new R&D projects in UK universities that specialise in this area. These research projects regularly qualify for government grants. Scholarly articles that result from these projects have appeared in international journals available to other scientists and the wider public through online subscriptions.

The Manufacturing Services Division of TC has competitors in the UK market who offer a similar range of treatments. Like its competitors, TC benefits from access to the most up to date scientific research. It also keeps the precise details of its processes as closely guarded commercial secrets. To this end it uses an Information Security Management System to protect its database and ensure that its systems meet regulatory and legislative requirements.

TC has a partnership agreement with a manufacturer of biomedical implants to assess the deterioration of replacement joints. For this purpose, TC has access to an online database of patient data. The results of these assessments are used to advise the relevant UK regulatory body to enable it to issue appropriate guidelines to patients if they begin to experience complications. The results are also used to inform the design and manufacture of new products.

TC has similar agreements with its aerospace customers. Many of the components treated by TC's Manufacturing Services Division are used by its customers in critical engineering systems. The results of inspections of these parts are an essential feature of the company's quality assurance management.

The Laboratory Services Division provides TC's customers with a range of laboratory services, including industry standard quality assurance (QA) tests.



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