

# BCS Certificate in Data Management Essentials

## Sample Paper A

### 1 Hour Examination

You are allowed fifteen (15) minutes reading time before the examination starts. You are not allowed to write anything during that reading time.

This is an open-book examination. This means that you can refer to written material in addition to the examination paper itself.

Attempt **ALL** questions. All questions are based on the same scenario.

There are **40 marks** in total for this paper. The mark awarded for each separate question will be shown with the question text.

**This paper must not be retained or removed from the examination venue. Any attempt to do so, will result in disqualification from this examination. Copying of this paper is expressly forbidden without the direct approval of BCS, The Chartered Institute for IT.**

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## **SCENARIO**

### **THE SLOWA GROUP**

The SLOWA Group is a retail conglomerate that has quickly grown through a number of mergers and acquisitions. Their business is conducted both through stores and through mail order operations.

The original outlets – independent stores, small chains of stores, and mail order businesses – have retained their own identities, and, in effect, operate as separate businesses under the overall group umbrella.

The original outlets were all supported by a diverse range of information systems. None of the original outlets had a single information system; separate systems for purchasing, stock management, point of sale, payroll and general finance being commonplace. These diverse information systems have a number of databases based on different technology.

The SLOWA Group board has approved two information systems related initiatives – the introduction of a new system to handle the placing of advertisements for the company's extensive product range in the press, on television, and via other types of media; and the creation of a Central Data Management Unit to support the whole group.

**1** For the new system to handle the placing of advertisements, an advert, before creation, must be the sponsored by a business unit. That business unit then continues to own the advert throughout its life. An advert is concerned with one product type only, and may be placed in the press and/or on TV and/or other media types.

a) Draw a logical data model (diagram) to represent the entities and relationships (and the names of those relationships) for this new system. The model should show the mandatory/optional nature of the relationships. Any many-to-many relationships should be resolved.

**[12 marks]**

b) Suggest primary keys and two significant attributes for two of the entities shown in the model.

**[3 marks]**

c) Develop a formal data definition, containing at least 8 elements, for one of your attributes.

**[4 marks]**

**2** The SLOWA Group senior management realises that obtaining cross function management information in their current environment of different technology supporting different business areas is slow, complex and expensive.

Two proposals have been suggested for solving this problem – a corporate database and a data warehouse system.

Briefly describe the advantages and disadvantages of:

- i) A corporate database,
- ii) A data warehouse system,

as a solution to the SLOWA Group senior management's problem.

**[12 marks]**

**3** The SLOWA Group Central Data Management Unit will develop a repository. What issues could arise in developing and populating such a repository?

**[4 marks]**

- 4 Although the SLOWA Group senior management have decided to set up a central data management group, they have limited the staffing of this group to only two employees. What combinations of the data manager, data administrator, repository administrator and database administrator roles would you recommend for each of these two employees? You can assume that the employees will have the relevant experience for the combinations you suggest. No more than two roles per employee can be suggested. Briefly justify your allocation of roles to employees.

**[5 marks]**

**-End of Paper-**