

THIS PAPER IS NOT TO BE REMOVED FROM THE EXAMINATION HALLS

UNIVERSITY OF LONDON

CO3319 ZA

BSc Examination

**COMPUTING AND INFORMATION SYSTEMS AND  
CREATIVE COMPUTING**

**Decision Support and Executive Information Systems**

Friday 10 May 2013 : 2.30 – 4.45 pm

Duration: 2 hours 15 minutes

There are **FIVE** questions on this paper. Candidates should not attempt more than **THREE** questions. All questions carry equal marks and full marks can be obtained for complete answers to **THREE** questions.

Only your first three answers, in the order that they appear in your answer book, will be marked.

A hand held calculator may be used when answering questions on this paper but it must not be pre-programmed or able to display graphics, text or algebraic equations. The make and type of machine must be stated clearly on the front cover of the answer book.

1. In the United Kingdom supermarkets sell large quantities of processed meat products labelled as "beef". Recently it has been discovered that many of these products are contaminated because they contain "horsemeat". This is prohibited in the U.K. Ultimately it is the supermarket that is responsible for the quality of its products. You are required to design an on-line decision support system that would assist a customer in choosing a supermarket that minimises the risk of them purchasing a contaminated meat product.

Outline your approach to designing such a system, the problems and limitations you are likely to encounter and how they may be overcome.

[25 marks]

2. The National Health Service (NHS) in the U.K. is free to citizens at the point of delivery. However, it has been suggested that foreigners should be allowed to access the NHS on a private fee-paying basis. The following data could be used to provide information about a foreign patient.

- Patient reference number
- Date of entering hospital
- Date of leaving hospital
- Surgeon responsible for operation
- Type of operation
- Cost of operation
- Fee charged to patient for operation
- Cost of providing board and accommodation to patient.
- Fee charged to patient for board and accommodation

Discuss the merits of using a multidimensional database for storing this type of data rather than a relational one. Illustrate your answer using the data fields listed above.

[25 marks]

3. Executive government in the United Kingdom is exercised mainly by the Prime Minister and the Cabinet. The Cabinet consists of members of parliament appointed by the Prime Minister. Each Cabinet member will be responsible for running a particular department of state such as defence or education.

How well these Cabinet members perform can influence whether the Government is re-elected.

Discuss the merits and demerits of the Prime Minister adopting an Executive Information System (EIS) in order to monitor the performance of Cabinet members.

[25 marks]

4. The Bank of England is the central bank of the United Kingdom. It is expected to conduct monetary policy in such a way as to achieve an inflation target rate of 2%. It tries to achieve this by manipulating the money supply and interest rates. Most of the time it has overshot the target.

Because of the economic crisis the Government is considering adopting a "growth" target rather than an "inflation" one.

You are required to discuss the advantages and disadvantages of employing the Blanning approach to model based management systems (MBMS) or the Geoffrion Structured Modelling approach given the apparent difficulty in modelling the UK Economy.

[25 marks]

5. Assume that the University of London wishes to update its degree entitled, "Computing and Information Systems and Creative Computing". Rather than just using academics employed by the University of London, it intends to involve all the best academics in this field throughout the United Kingdom.

Discuss the feasibility of implementing a group decision support system (GDSS) and whether it would be superior to holding 'manual' meetings in London. Illustrate your answer by referring to the scenario outlined above.

[25 Marks]

END OF PAPER