

UNIVERSITY OF LONDON

GOLDSMITHS COLLEGE

B. Sc. Examination 2008

COMPUTING AND INFORMATION SYSTEMS

CIS319/IS53006A

DECISION SUPPORT AND EXECUTIVE INFORMATION SYSTEMS

Duration: 2 hours 15 minutes

Date and time:

There are five questions in this paper. You should answer no more than THREE questions. Full marks will be awarded for complete answers to a total of THREE questions. Each question carries 25 marks. The marks for each part of a question are indicated at the end of the part in [.] brackets.

There are 75 marks available on this paper.

Electronic calculators must not be programmed prior to the examination. Calculators which display graphics, text or algebraic equations are not allowed.

[Or]

No calculators should be used.

THIS PAPER MUST NOT BE REMOVED FROM THE EXAMINATION ROOM

Question 1

- a. Suggest one area where intelligent agents could be used to support decision support systems. Mention four important properties that should be possessed by this intelligent agent to support this suggested area of intelligent system support. [7]
- b. You have been hired as a consultant to develop a Decision Support System for investing in the stock market. Choose any appropriate development methodology and describe the tasks to be carried out at each step of your chosen development methodology. [10]
- c. Briefly discuss each of the tools you would need to build the decision support system described in part b. [8]

Question 2

You have been hired as a knowledge engineer to elicit knowledge from an expert who repairs computer monitors.

- a. Describe briefly four features of expert systems you can use for repairing computer monitors. [8]
- b. Discuss the merits of available knowledge elicitation techniques that could be used for gathering information from the expert for repairing computer monitors. [10]
- c. Use the *Backward Chaining* inference engine and design an expert system that can advise a user on how to select a television. [7]

Question 3

- a. Describe briefly two main steps in the development process of a knowledge based-system used in giving advise to passengers travelling abroad. [8]
- b. Describe four major activities in a knowledge-engineering process used in part a. [8]
- c. Show how physical exercises, competing in sports and studies are attributed to a typical student in an appropriate Semantic Network Diagram using all essential components. [9]

Question 4

- a. Describe briefly four features of Enterprise Information Systems (EIS) used in a company producing petroleum products. [8]
- b. Using appropriate diagram explain the decision making processes of the above Enterprise Information System. [12]
- c. Explain how an Enterprise Information Portal could enhance an Enterprise Information System. [5]

Question 5

- a. Write a brief description on how Data mining could be used to enhance businesses. [5]
- b. Give brief descriptions of five methods that can be used for performing data mining when investigating fraudulent use of credit cards. [10]
- c. Describe how data mining could be used for predicting the location of possible crimes of the future by a police department. [10]