UNIVERSITY of LONDON

291 0319E

B.Sc. EXAMINATION 2005

for External Students

East Zone

COMPUTING AND INFORMATION SYSTEMS

CIS 319 DECISION SUPPORT and EXECUTIVE INFORMATION SYSTEMS

Duration: 2 hours 15 minutes

Date and Time: Wednesday, 25 May 2005 : 10.00am - 12.15pm

There are FIVE questions on this paper.
*Do not attempt more than **THREE** questions. All questions carry equal marks and full marks can be obtained for complete answers to **THREE** questions.*
Electronic calculators may be used. The make and model should be specified on the script. The calculator must not be programmed prior to the examination. Calculators that display graphics, text or algebraic equations are not allowed.

Candidates are advised that their answers to all questions will be greatly strengthened by the citing of examples either of their personal experience or from written sources. Full referencing of sources is not necessary; an indication of the nature of the source is all that is required.

THIS EXAMINATION PAPER MUST NOT BE REMOVED FROM THE EXAMINATION ROOM.

UL05/517

TURN OVER

1. You have just graduated with a BSc in Computing and Information Systems.
You have decided to seek a job in computing with a large company but you are unsure which branch of computing to enter or what companies to seek employment in.
Discuss the problems you might face in making a rational decision as to the course of action you should take.
You must outline your arguments and conclusion according to the Henry Mintzberg model of decision making, explaining each step in the process.
What would you do if after six months you decide that you have chosen entirely the wrong area of computing to enter?

[25]

2. (a) The following set of equations represents a market model for a particular product.

$Qd = a_0 + a_1P + a_2Y_d$	(demand sector)
$Qs = b_0P + b_1P_{t-1} + b_2S + b_3C$	(supply sector)
$Y_d = c_0 + c_1(Y- T)$	(disposable income)
$S = d_0S_{t-1} + d_1P_{t-1}$	(stock sector)
Equilibrium price P is determined when $Q_d = Q_s$	(market equilibrium)

Qd = consumer demand	Qs = market supply
Y = consumer gross income	Y_d = consumer disposable income
P = market price of product	P_{t-1} = market price of product lagged by one time period
S = stock levels	S_{t-1} = stock levels lagged by one time period
T = total income tax	C = cost of production inputs

a,b,c and d are fixed parameters.

You are required to draw a METAGRAPH of the above five models according to the principles laid down by Robert Blanning.
Some marks will be awarded for neatness and clarity. [17]

(b) Discuss the advantages of metagraphs as a modelling device and illustrate your arguments by using the metagraph obtained in part (a) of your answer. [8]

3. (a) Compare and contrast the Nominal Group Technique and the Delphi Method as methods for collective decision making. [13]

(b) How might computerised support help in the decision-making process? Illustrate your answer with a practical example based on the decision of a firm on how to counter falling sales. [12]

4. The sales department of a large firm keeps records of the day to day sales made by each of its sales staff. The table below represents an extract from the Sales Journal.

SALES RECORD

Salesman	Product code *	Customer code*	Date of sale		Sales value (£)
J.D. Smith	004	B003	23-01-2004		2,561
W.M. Robinson	010	A102	24-01-2004		3,020
A. Duncan	004	A007	25-01-2004		1,237
W.M. Robinson	006	B018	26-01-2004		950
A.S. Gibbons	003	A102	27-01-2004		4,298
J.D. Smith	010	A002	28-01-2004		4,000
W.M. Robinson	006	B003	29-01-2004		2,632

* Each product and customer is given a code to identify them.

You are given the objective of providing the Sales Manager with a DSS for assessing the overall sales performance of the department and of individual members of the sales force.

Explain how you might restructure the above relational table in the form of a multidimensional database (MDBS) to help achieve this objective.
Give examples of the queries that such a database may answer and any calculations that it might have to perform. [25]

5. **Citigroup** is the largest financial conglomerate in the world. It is organised into six worldwide regions. These are, North America, Mexico, Latin America, Asia Pacific, Europe/Middle East/Africa combined and Japan.
Its nine financial products are grouped into four different categories.
The table below shows the groupings.

	Product categories	Financial products
	Global Consumer group	Cards Consumer finance Retail banking
	Global Corporate and Investment Banking group	Capital marketing & banking Global transaction services
	Investment Management	Life Insurance & annuities Asset management
	Wealth Management	Private client services Private bank

(a) You are a systems analyst called in by the Chief Executive of Citigroup to explain how an executive information system (EIS) may benefit the company.

In light of the information given above, detail the arguments you would use to convince the Chief Executive that purchasing an EIS would be worthwhile. [20]

(b) What counter arguments might the Chief Executive put to you? [5]

END OF EXAMINATION