THIS PAPER IS NOT TO BE REMOVED FROM THE EXAMINATION HALLS

UNIVERSITY OF LONDON **291 0319 ZB**

BSc Examination
for External Students

COMPUTING AND INFORMATION SYSTEMS AND CREATIVE COMPUTING

Decision Support and Executive Information Systems

Dateline: Tuesday 19 May 2009 : 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.

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, texts or algebraic equations. The make and type of machine must be stated clearly on the front cover of the answer book.

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

1. You are responsible for selecting two members of staff for redundancy as a consequence of the economic recession.
Discuss the differences that exist between Herbert Simon's theory of decision making and the Henry Mintzberg approach using the above scenario to illustrate your answer.

[25]

2. (a) The following set of equations represents an economic model for a national economy.

$C_t = a + b(Y_t - T_t)$ (consumption sector)
$I_t = c + dY_t + eY_{t-1}$ (investment sector)
$M_t = fY_t + gP_{t-1}$ (import sector)
$T_t = hY_t + iC_t$ (taxation sector)
$Y_t = C_t + I_t + G_t + X_t - M_t$ (income identity)

Where, C_t = consumer expenditure; I_t = investment expenditure
M_t = import expenditure; X_t = export expenditure
T_t = total taxation; P_t = general price level
G_t = government expenditure; Y_t = national income
P_{t-1} = general price level lagged by one time period
Y_{t-1} = national income lagged by one time period.

a,b,c,d,e,f,g,h and i 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 multinational company with headquarters in London has a subsidiary in each of the countries of the European Union.
The company wishes to install a Group Decision Support System (GDSS) to facilitate communication and decision-making between headquarter staff and subsidiary staff.

(a) Discuss the problems the firm would face in choosing the appropriate GDSS hardware and software to purchase.

[15]

(b) Outline any staffing problems that might arise in managing such a system.

[10]

4. A company operates several car showrooms throughout the United Kingdom. It sells a range of cars from a single manufacturer and also provides spare parts, routine maintenances and repairs.
Head office has sufficient money to replace its existing Decision Support System (DSS) with an improved version **OR** with an Expert System (ES), but not both.
Outline the advice you would give the company to help it decide which system to choose.

[25]

5. The recent banking crisis in the United Kingdom has forced the government to partly nationalise some of the leading banks such as the Royal Bank of Scotland, HBOS and Lloyds TSB.
The government has ordered the banks to provide a detailed analysis of their loans and other assets to try and assess how vulnerable they are to default.

You are required to discuss how an Executive Information System (EIS) may assist the Minister of State responsible for these banks to be better informed about the crisis and what type of questions it might be able to answer.
Introduce any statistics into your answer which you may feel are relevant.

[25]

END OF EXAMINATION