



INFORMATICS

OXFORD BROOKES UNIVERSITY
BACHELOR OF SCIENCE (HONS) COMPUTING
AND INFORMATION SYSTEMS

DECEMBER 2003 EXAMINATION

9th DECEMBER 2003

M7011 : MANAGEMENT INFORMATION SYSTEMS

TIME : 2 Hours + 10 Minutes Reading

NUMBER OF PAGES : 1 cover sheet and 8 pages of questions

INSTRUCTIONS:

- ☐ ALL questions in SECTION A are **COMPULSORY** and choose any **THREE** questions in SECTION B.
- ☐ Section A carries 25 marks.
- ☐ All questions in Section B carry 25 marks each.
- ☐ Please start each question on a new page.
- ☐ Answers will not be marked if they are illegible.
- ☐ Enter the question numbers (in the order you have attempted) in the boxes provided in the answer script.
- ☐ Write your **INDEX NUMBER** and **MODULE NUMBER** on the cover page of the answer script.

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SECTION A

(Answer ALL questions in this section)

[TOTAL: 25 MARKS]

Question 1

[Question 1a to 1j : 1 mark each]

For parts 1a to 1j, write the **Question no.** and the most suitable answer (e.g. a or b or c or d) only.

For part 1g, write the **Question no.** and the most suitable answer(s) (there may be more than one suitable answer).

- 1a) Summary transaction data, high-volume data, and simple models are information inputs characteristic of a(n):
 - a. DSS
 - b. MIS
 - c. ESS
 - d. TPS
- 1b) Which of the following does not fall into broadband category?
 - a. FDDI
 - b. SONET
 - c. ISDN
 - d. SMDS
- 1c) A competitive strategy for developing new market niches for specialized products or services where a business can compete in the target area better than its competitors describes:
 - a. product differentiation.
 - b. focused differentiation.
 - c. market segmentation.
 - d. data-mining.

Please turn over

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- 1d) Choosing the first available alternative to move closer toward the ultimate goal instead of searching for all alternatives and consequences defines:
- maddling through
 - satisficing
 - bounded rationality
 - speculative decision making
- 1e) The analysis of large pools of data to find patterns and rules that can be used to guide decision making and predict future behaviour defines:
- data-mining
 - data concatenation
 - normalisation
 - data warehousing
- 1f) The way a doctor diagnoses an illness is often:
- a structured task
 - a semi-structured task
 - an unstructured task
 - none of the above
- 1g) Risk(s) of DSS is/are (you may choose more than one answer):
- Lack of quality assurance
 - Lack of data security
 - Failure of specifies correct requirements
 - Failure to understand to design alternatives

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- 1h) The electronic transmission of business data such as purchase orders and invoices from one firm's computer to that of another firm is known as:
- electronic data transmission
 - computerised data transmission
 - electronic data interchange
 - computerised data interchange
- 1i) Which one of the following does not fall into machine learning method?
- Neural computing
 - Conductive learning
 - Inductive learning
 - Genetic algorithm
- 1j) A course of action used to recover from occurrences that could shut down or do major harm to information systems called a:
- recovery plan
 - hot site plan
 - back up plan
 - disaster plan

Please turn over

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Question 2**(Question no. 2a to 2e : 1 mark each)**For parts 2a – 2e, write the Qn. No. and the most suitable answer (e.g. a or b) only.

- 2a) The sentiments and attitudes of workers in the organisation are one of the most important central organisation factor.
a. TRUE b. FALSE
- 2b) A group decision support system (GDSS) is an interactive computer-based system that facilitates the solution of semi-structured Problem
a. TRUE b. FALSE
- 2c) From an economic standpoint, information systems can be viewed as a factor of production that can be freely substituted for capital and labour.
a. TRUE b. FALSE
- 2d) Neural network does not do parallel processing.
a. TRUE b. FALSE
- 2e) MIS supports the decision stage of decision making.
a. TRUE b. FALSE

Question 3

Explain the following (Minimum 4 to 5 sentences each):

[Maximum 10 marks]

- 3a) Economic Espionage
3b) Non malicious Mistaps

Please turn over

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SECTION B**(Answer any THREE questions in this section)****Question 4**Answer the questions (Qn. 4a to Qn. 4e) based on the application scenario.

Charles Schwab & Co., based in San Francisco, California, is the largest discount brokerage in the United States. To keep pace with its rapidly expanding business, Schwab has decided to scrap its Mainframe centred computing systems and replace them with client/server systems. As described by Elisabeth Horwitt then IT manager, Schwab expects to have 60 percents of its applications on client/server machines by 1996. So that it can more easily cope with the fluctuating transactions volumes caused by the volatile stock market.

Schwab has chosen the open software foundations protocols, believing that by taking a more open and non-proprietary approach, they can better control computer-operating costs. Schwab was one of the first large firms to fully commit OSF, in mid 1992.

The client/server platform is based on OSF/1; the hardware is a mix of IBM, Digital Equipment Corporation and Hewlett Packard. The transaction processing architecture is OSF's DCE, which will tie the applications across multi-vendor systems. This architecture uses "remote procedure call".

Barry Nance (Technical Consultant) calls remoter procedure calls (RPCs), the tools of choice for building client/server systems. With RPCs, a "call" statement from one application requesting work from another application looks like a standard subroutine call; however, the second application can be located on any type of machine. The fact that the client and server modules execute on different machines is transparent to the application, says Nance. The RPC-generated code creates a communication session between the two computers and then "sends" request and later "receives" the answer. The generated code manages the entire communication session, taking that burden off the application.

Schwab needs to use high bandwidth communications backbone running at least 100 mbps between its three San Francisco buildings. Routers to interconnect the LANs in the three buildings use TCP/IP and Novell protocols. Schwab expects eventually to be able to offer "bandwidth on demand" – to its remote offices.

One of the most important components of the Schwab systems is the network management. Unless the company can manage the entire day-to-day network operations from a single (or a few) network management workstation, the system will not be reliable. Schwab has started by looking some network management tools to manage their entire network operations.

To reduce the risks of adopting these OSF standards before they can have been formally defined, Schwab has joined the open software Foundations, so that it gains access to some OSF products before they are commercially available, says Horwitt. Schwab is also working with firms outside the brokerage industry that are tying their mainframes to their future Unix networks.

Question 4 continues on next page – Please turn over

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In addition to allowing Schwab to more easily expand, the new system should permit the company to reengineer its business. One eighteen-persons business team, for example, is analyzing current work process in various Schwab businesses, looking for ways to combine them in more logical, efficient ways. It appears that this redesign will involve moving applications closer to the users, such as placing the centrally handled mutual funds business in the branch offices – a move made possible by Schwab's OSF based systems.

Source: "Management Information System in Practice", Randolph 1st edition, New York, 1997.

- 4a) Identify the risks of a natural disaster in selecting a data centre location. Area with high exposures [5 marks]
- 4b) What is the benefit of OSF and how it can help this company? [5 marks]
- 4c) Schwab using multi-vendor systems. What do you call this kind of Information Systems? [5 marks]
- 4d) What kind of telecommunications bandwidth does Schwab require to connect to their remote offices. Define any Network Management tools that may applicable to monitor their entire network Operations. [5 marks]
- 4e) How will this new system change their business? [5 marks]

[TOTAL: 25 MARKS]

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Question 5

- 5a) Despite the development of a vast number of different "e.payment" products, over 90% of business-to-consumer (B2C) payments on the Internet are still performed using credit cards. However Internet-based credit card payments have a fraud level that is ten times greater than the levels found when the card is physically presented to the merchant. There are now a number of elements that have emerged as the cornerstone for secure e-payments, one of them being Public Key Infrastructure (PKI).

Explain PKI, its problems and its association to the digital envelope. Support your answer with illustrations and examples.

[6 marks]

- 5b) What do you understand by Business Process Re-engineering and how does this affect on individual in terms of effectiveness, efficiency and transformation in the organisation.

[5 marks]

- 5c) M-commerce is a reality in Singapore, where mobile phone users can pay for library fines, parking, taxi fares, photo prints and other fees without producing cash or even a credit card. On the other hand, US consumers are not taking to m-commerce at the rate, which was predicted, and some companies are focusing more on markets like Europe and particularly, Asia.

- i) Compare and contrast 3 factors that might have contributed to such a mindset in the west and the east.

[6 marks]

- ii) How are some companies, especially the ones with international reach, adjusting to these mindsets? Provide two examples.

[4 marks]

- 5d) Provide two examples on how various online industries could make use of web mining techniques.

[4 marks]

[TOTAL: 25 MARKS]

Please turn over

Question 6

6a) Discuss 5 types of MIS and their purposes and characteristics. [15 marks]

6b) Network is very important part of the electronic communication in the organization. As an IT manager what should be your concerns when supporting or implementing Network.

[5 marks]

6c) Identify and explain major reasons for using expert systems. [5 marks]

[TOTAL: 25 MARKS]

Question 7

7a) The rapid growth of electronic commerce has changed a number of perspectives. The internet has become a target for a variety of ingenious efforts to breach security which further decreases consumers' confidence.

i) List the five major types of attacks against electronic commerce systems.

[5 marks]

ii) Explain two factors that contribute to the rise in electronic commerce security breaches.

[5 marks]

7b) If you presented the issue of network security to any corporation, they would exclaim in unison that they have indulged in every precaution and technology available. However, attempt to gather a macro view of the level of commitment towards the maintenance of security, and you will find that they would only be spending a small percentage of their budgets on network security matters. This depicts a sad lack of comprehension for best practices in network risk management.

List and discuss three best practices that a company must adhere to for the organization's on-line well-being.

[10 marks]

7c) What do you understand by the term of Inference engine?

[5 marks]

[TOTAL: 25 MARKS]

- END OF PAPER -