UNIVERSITY OF SWAZILAND

FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS ADMINISTRATION

SUPPLEMENTARY EXAMINATION 2005

TITLE OF PAPER: MANAGEMENT INFORMATION SYSTEMS I

DEGREE AND YEAR: DCOM III   IDE

COURSE NUMBER: BA 311-11

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: 1. THIS PAPER CONSISTS OF SECTIONS (A) AND (B)

2. THE CASE STUDY SECTION (A) IS COMPULSORY

3. ANSWER ANY TWO QUESTIONS FROM SECTION B.

Note **MARKS WILL BE AWARDED FOR GOOD COMMUNICATION IN ENGLISH AND FOR ORDERLY PRESENTATION OF WORK**

THIS EXAMINATION PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

SECTION A

INTERNATIONAL INVESTMENT SERVICES LTD (IIS)

International Investment Services Ltd (IIS) employs a total of 600 staff, including 300 at their headquarters in London and the rest at 12 offices around the world. IIS specializes in providing advice and management of funds for investors. To either individuals or organizations, who wish to take advantage of special conditions within the financial markets, such as areas which have beneficial tax law and occasions when there are major fluctuations in the currency markets.

Since its establishment in the 1970s, the management of IIS have always viewed information technology as a vital element in gaining competitive advantage in an area of business where success is dependent upon up-to-date information and fast, reliable communication. At the London headquarters there are about 140 specialist information systems staff, of whom about two-thirds are involved in systems development and the remainder maintain and operate the existing systems and provide technical support for users.

A large mainframe computer at the London headquarters provides a centralized database, which includes a real-time processing system that is fed with data directly from the major financial institutions around the world, such as the London Stock Exchange. High-speed telecommunications networks are designed to allow all IIS's personnel to access the information on the central mainframe and there is intensive use of these networks for electronic mail (e-mail) and other forms of electronic data interchange (EDI).

Dan Bates is the chief executive of IIS. Dan has become increasingly concerned that some of the organizations who are competing with IIS seem to be able to take better advantage of the changing Information Systems Director. John assures Dan that IIS's hardware and communications systems are at least as well advanced as any of their competitors. The software performs well as a transaction processing system to handle clients' accounts and it processes the basic financial information that the investment staff require.

Dan discusses his concerns with Marie Sims. the Personnel Director, who has overall responsibility for recruitment around the world. Marie assures Dan that IIS's investment appraisal staff are the best available in terms of both qualifications and experience and their salaries and conditions are considered generous within the industry. Dan next speaks to Frank Heinman, the Senior Investment executive deputizing for the Investments Director, who has taken a period of extended leave due to illness. Frank is relatively new to IIS and he mentions that one of his previous employers had been developing a sophisticated computerized investments analysis system. In 95% of instances this system is able to provide investment advice which is proving to be at least as effective as top-class human consultants, but it provides the advice much more quickly than a person could. The company concerned is naturally keen to take maximum advantage of its system and is therefore unlikely to make it available to the competition. When Frank left

that employer, he had only seen a prototype of the system which produced printed reports, but he understood that the aim was to use a graphical user interface to the system.

Dan asks John Kline to discuss the situation with Frank Heinman and then report back to Dan in two days with some ideas on how IIS should react.

For the past several years IIS have developed their own software. When John Kline joined the company, IIS had standardized on the use of SSADM (Structured Systems Analysis and Development Methodology) in all development projects. John is aware that the Information Systems Department and its staff are regarded as elitist by other staff and that recent surveys of the users of the information systems have shown a decline in user satisfaction with the systems and the support they get from the Information Systems staff. John is considering whether IIS can usefully adopt a 'soft systems' approach to the new systems development projects.

Marie Sims has asked John Kline about the use of data flow diagrams (DFDs) in systems analysis and design. Marie has identified the following files within the personnel department which may be used during recruitment procedures:

- a job specification file holding a job description of every Job type in IIS

- an establishment file, holding, for each department, the maximum number of staff permitted for each job type

- a personnel file, holding details of each employee, one record per employee

- a vacancy file- holding details of unfilled vacancies

- an applicants file holding details of all job applicants

- an interview file holding a diary of all forthcoming interviews.

You are required:
a)   to explain the features of a real-time system and why IIS has chosen one to handle the basic data fed from the financial institutions.   (10 marks)

b)   to explain what an expert system is and describe some of the features of an expert system which could help IIS with its investment analysis and appraisal,   (10) marks)

c)   to use as many of the files mentioned in the case study as you consider necessary to draw a data flow diagram of likely recruitment procedures at IIS,   (20 marks)

d)   to describe the use of prototypes and graphical user .interfaces and discuss their appropriateness for applications such as the investment analysis application that IIS is considering.   (10 marks)

SECTION B
BA 311-2

Question 1

You have been appointed as head of a newly created internal audit section within the computer department of a large food wholesaler. The department has a number of operational systems, some on-line and some batch processing, and a central corporate database. A significant effort is currently being devoted to new systems development and its computer systems.

a)   Describe what you are looking for in your review.   12 marks

Your various tasks are to review the various types of controls which exist in the department. In order to effectively perform an audit of a computer user department as described above, you may well have to make use of computer assisted auditing techniques.

b)   What computer assisted techniques are available and where and might you use them?   8 marks

c)   Briefly discuss two methods used in investigating and documenting the current business systems.   5 marks

Question 2
The general manager of a large organization has asked you to draw up a document identifying no more than 10 important systems characteristic against which managers can evaluate the success of an information system, together with a brief explanation of each.

a)   What would your document contain?   20 marks

b)   Briefly describe the stages of the traditional systems life cycle   5 marks

Question 3

The Chief Accountant of a company marketing agricultural products is extremely concerned at the length of time a feasibility report takes.
As the accounting department representative on the steering committee, how would you respond to each of the following demands from the Chief Accountant:

a)   An explanation as to why the activities involved in developing new systems take so long   7 marks

b)   Whether greater use of computers might both improve control of the project, and enable the project team to work more efficiently.   8 marks

c)   Two stages of computer software testing are:
Systems testing
User acceptance testing
Discuss each of these stages   10 marks