

# UNIVERSITY OF SWAZILAND

FACULTY OF COMMERCE  
DEPARTMENT OF BUSINESS ADMINISTRATION

SUPPLEMENTARY EXAMINATION – JULY 2010

COURSE TITLE : MANAGEMENT INFORMATION SYSTEMS  
COURSE CODE : BA 311– FULLTIME and IDE  
CLASS : DIPLOMA IN COMMERCE  
TIME ALLOWED : THREE (3) HOURS

**INSTRUCTIONS:**

1. THIS PAPER CONSISTS OF SECTION (A) AND (B)
2. SECTION (A) IS COMPULSORY.

TOTAL MARKS 40

3. ANSWER ANY THREE (3) QUESTIONS FROM SECTION B.

TOTAL MARKS 60

4. THE TOTAL NUMBER OF QUESTIONS IN THIS PAPER IS FIVE (5)

NOTE: MARKS WILL BE AWARDED FOR GOOD COMMUNICATION IN ENGLISH AND  
FOR ORDERLY PRESENTATION

THIS EXAMINATION PAPER SHOULD NOT BE OPENED UNTIL INVIGILATOR HAS  
GRANTED PERMISSION

## SECTION A. - COMPULSORY

The competition between Google and Microsoft is heating up another notch. Google has dominated Web search and ad placement technologies, while Microsoft has a near-monopoly on desktop office productivity and operating system software. Now Google is challenging Microsoft on the desktop as well.

In August 2006, Google launched Google Apps for Your Domain, a suite of Web-based applications targeted at small and midsize businesses. Google Apps bundled the company's e-mail, calendar, instant messaging, and Web site creation applications. The package was made available free of charge. Google designed the suite to be hosted in its own data center, but enabled customers to brand the components using their own domain names. The package also included management tools for those companies that had experienced IT professionals. In February 2007, Google released Google Apps Premier Edition, which added its Docs word processing and Spreadsheets applications with the other tools in Google Apps for Your Domain. The Premier Edition also included APIs (application programming interfaces) to facilitate integration with a company's existing applications and the ability to build a customized home page with a single sign-on for all of a company's applications. An Apps user can save his or her files on Google's servers and access them anywhere that connects to the Internet using a standard Web browser. Multiple users are able to share files and work on them simultaneously online.

The charge for all of this: only R350 per year per employee....one-tenth the cost of Microsoft Office Professional Edition, which runs at approx. R3, 500 for a single copy. The R350 license came with 10 gigabytes of storage for Gmail (e-mail) with no ads, a guaranteed performance level of 99.9-percent uptime, and tech support by phone 24 hours a day, seven days a week. Companies using the Web-based Google Apps save support costs because they do not have to hire their own IT workers to maintain the software.

Google Apps however provides only basic functionality in its word processing and spreadsheet programs and lacks database and electronic presentation software to compete with Microsoft Access and PowerPoint.

Microsoft's spreadsheet and word processing programs are far more powerful and rich in features than those offered by Google. However most Office users don't even use half of these features, so Google's value proposition is compelling, especially in the context of larger businesses. Google

did hope that its Gmail users who typically attached Office documents to their e-mail messages would instead move them to Google Apps for editing and sharing. Part of the company's overall business strategy was to encourage users to store both personal and business data on Google's servers where Google could appropriately match up documents with targeted ads. Microsoft tried to counter Google by enhancing its Office 2007 suite with more capabilities for integrating with common business applications and additional collaboration tools. It introduced a new Office Live suite comprising Web design tools, a Web hosting service, and e-mail, calendar, contact manager, and online collaboration tools. At R400 per month, Office Live could not compete with Google Apps Premier Edition on price, and was not as integrated with the other productivity tools as Google Apps. Google does, however, have major obstacles to overcome. Users must be connected to the Internet to use Google Apps. Microsoft Office users can work offline, which is a big advantage to mobile workers. Office, particularly Excel, is also entrenched in the business world. Although Google's document and spreadsheet files are interoperable with Microsoft's, companies may be hesitant to switch to Google's products, regardless of the savings. Google must also face security issues. SF Bay Pediatrics, a medical clinic in San Francisco, implemented Google Apps in December 2006. The doctors at the clinic are enthusiastically collaborating on treatments and techniques using Google Docs. However, the clinic cannot use the services for sensitive information, such as patient records, because the hosted setup does not comply with international regulations for safeguarding privacy and security of medical records. According to Forrester Research, some large companies are wary of Google Apps because the data are not encrypted in Google's systems. Rajen Sheth, project Manager for Enterprise at Google, responds, "We put the security around [the data]. We provide a variety of security mechanisms to prevent penetration into the data center [with] strong perimeter security." Google practices what it preaches by storing its own data and intellectual property on the same system.

Google is probably more capable of backing up and protecting data than most small companies. However, Google's terms of service do contain language about the company not being responsible for lost data.

*Case adapted mainly from readings in Management Information Systems, Laudon and Laudon, 8<sup>th</sup> edition.*

### **Case Study Questions**

- A. i. What kind of strategy is Google pursuing? **(5 marks)**  
ii. How is it using technology to achieve this strategy? **(5 marks)**
- B. Why would an organization continue to use Microsoft Office, given Google's offering?  
Provide and explain 4 reasons, using the case to support your reasons. **(20 marks)**
- C. Based on the case, what are Google's advantages over Microsoft? Briefly discuss only 3. **(10 marks)**

## SECTION B – ANSWER ANY 3

### QUESTION 2

- a. Explain operational information systems, giving 3 examples of such. (12 marks)
- b. How are they different from tactical information systems? Provide 2 key differences. (8 marks)

### QUESTION 3

Explain in detail, *and under headings*, 4 factors that affect the implementation outcome of a systems project. (20 marks)

### QUESTION 4

THEO Inc. is in the process of implementing a new information system that will allow their customers to customize their orders. THEO Inc executives believe they should use the Systems Development Life Cycle. The process is at the feasibility study stage. However the executives are not sure what they need to do here. Help guide them by explaining, *in detail, and under headings*, 4 feasibilities they need to consider. (20 marks)

### QUESTION 5

Each question has 4 possible solutions, pick the correct one.

**5.1 In a DFD external entities are represented by a**

- (a) rectangle
- (b) ellipse
- (c) diamond shaped box
- (d) circle

**5.2 A data flow can**

- (a) only emanate from an external entity
- (b) only terminate in an external entity
- (c) may emanate and terminate in an external entity
- (d) may either emanate or terminate in an external entity but not both

**5.3 A rectangle in a DFD represents**

- (a) a process
- (b) a data store
- (c) an external entity
- (d) an input unit

**5.4 External Entities may be a**

- (a) source of input data only
- (b) source of input data or destination of results
- (c) destination of results only
- (d) repository of data

**5. 5 By an external entity we mean a**

- (a) unit outside the system being designed which can be controlled by an analyst
- (b) unit outside the system whose behavior is independent of the system being designed
- (c) a unit external to the system being designed
- (d) a unit which is not part of a DFD

**5. 6 A data store in a DFD represents**

- (a) a sequential file
- (b) a disk store
- (c) a repository of data
- (d) a random access memory

**5. 7 A data flow can**

- (a) only enter a data store
- (b) only leave a data store
- (c) enter or leave a data store
- (d) either enter or leave a data store but not both

**5. 8 A data cannot flow between a store and**

- (i) a store
- (ii) a process
- (iii) an external entity
- (a) i and iii (b) i and ii
- (c) ii and iii (d) ii

**5. 9 Data cannot flow between two data stores because**

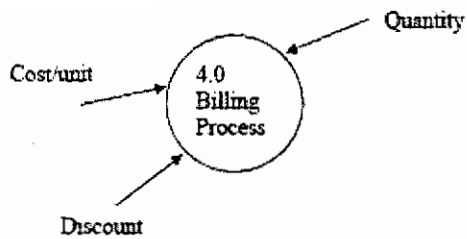
- (a) it is not allowed in a DFD
- (b) a data store is a passive repository of data
- (c) data can get corrupted
- (d) they will get merged

**5.10 Data cannot flow from an external entity to an external entity because**

- (a) it will get corrupted
- (b) it is not allowed in DFD
- (c) an external entity has no mechanism to read or write
- (d) both are outside the context of the system

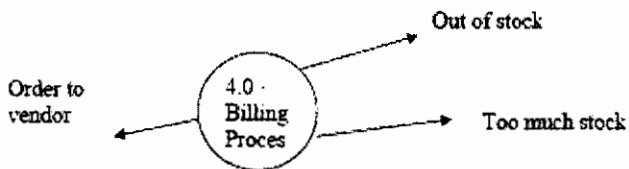
**5.11 The following portion of a DFD is not correct as**

- (a) there is no output data flow from the process
- (b) there are three data flow inputs to the process
- (c) there is no external entity
- (d) there is no data store



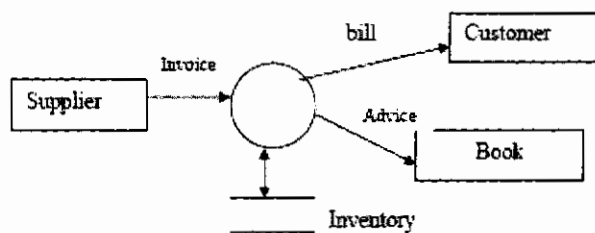
5.12 The following portion of a DFD is not correct as

- (a) there are many data flows out of the process
- (b) there are no input data flows to the process
- (c) the output does not go to an external entity
- (d) there is no data store



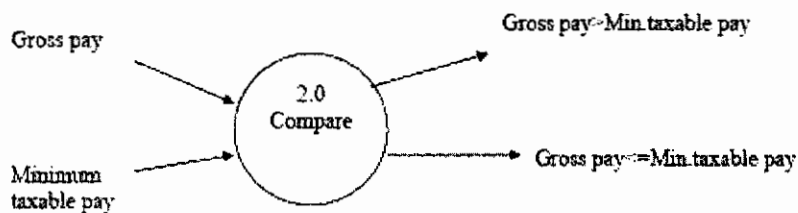
5.13 The following portion of DFD is wrong as

- (a) it has only one input
- (b) it writes and reads from the same data store
- (c) the process name is missing
- (d) output data flows to two external entities



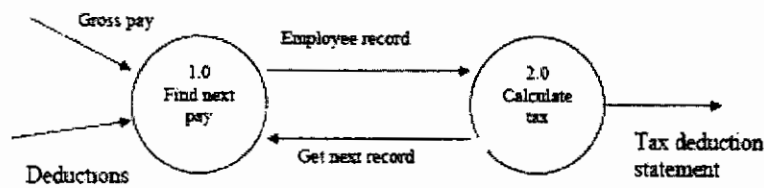
5.14 The following process diagram in a DFD is incorrect because

- (a) the process is a single decision
- (b) the process is not specified correctly
- (c) there are too many input data flows
- (d) the process does not refer to a data store



**5.15 The following portion of a DFD is incorrect because**

- (a) the processes do not refer to a data store
- (b) there is a loop between the two processes
- (c) the processes are not specified correctly
- (d) this structure is disallowed in a DFD



**5.16 Data flow in a DFD must have**

- (i) an arrow showing direction of flow of data
  - (ii) a meaningful name
  - (iii) a label such as: xyz
  - (iv) no arrows as they are confusing
- (a) i and iii (b) ii and iv  
(c) iii and iv (d) i and ii

**5.17 Before developing a logical DFD it is a good idea to**

- a) develop a physical DFD
- b) develop a system flow chart
- c) determine the contents of all data stores
- d) find out user's preferences

**5.18 A physical DFD specifies**

- (a) what processes will be used
- (b) who generates data and who processes it
- (c) what each person in an organization does
- (d) which data will be generated

**5.19 A physical DFD**

- (a) has no means of showing material flow
- (b) does not concern itself with material flow
- (c) can show only stored material
- (d) can show the flow of material

**5.20 A dotted line on a DFD shows**

- (a) something the developer is not sure about
- (b) boarder to activities in another system
- (c) boarder to a source
- (d) flow of data that is inconsistent

**(20 marks)**