



MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

SIT 200: MANAGEMENT INFORMATION SYSTEMS

DATE:

TIME:

INSTRUCTIONS:

Answer Question ONE and any other TWO Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terms as used in Management Information Systems: (4 marks)
 - i) Information
 - ii) Information system
 - iii) Management information system
 - iv) Digital firm
- b) Explain the **THREE** main activities of information system in an organization. (3 marks)
- c) Briefly discuss **THREE** types of information systems used in organizations. (3 marks)
- d) Discuss TWO salient features of an organization. (4 marks)
- e) Explain TWO feasibility studies you would do when developing an information system. (4 marks)
- f) Define the term ethics. (2 marks)
- g) Giving examples explain any TWO emerging trends in computing. (4 marks)
- h) What is the difference between a virus and a worm? (4 marks)
- i) List **TWO** types of cloud computing. (2 marks)

QUESTION TWO (20 MARKS)

- a) Assume you are among a team of experts tasked with acquiring an Information System in your organization. After doing a quick investigation about the organization's capability, you settle for in-house development and present the

idea to the top management. Explain **FIVE** reasons why you choose this method.

(10 marks)

- b) A situation arises where being in charge of an office you are required to make an ethical decision. Discuss basic guiding values to enable you achieve this.

(10 marks)

QUESTION THREE (20 MARKS)

- a) Information systems are used to address competitiveness in business. Explain this statement giving relevant examples where necessary.

(10 marks)

- b) Suggest **FOUR** conversion strategies used when introducing a new information system.

(8 marks)

- c) List **TWO** issues caused by information systems.

(2 marks)

QUESTION FOUR (20 MARKS)

- a) Define the term cookie.

(2 marks)

- b) Explain **FOUR** drivers of infrastructure evolution.

(8 marks)

- c) Information technology is an enabler of general business objectives. Discuss

(10 marks)

QUESTION FIVE (20 MARKS)

CASE SNIPPET: UPS COMPETES GLOBALLY WITH INFORMATION TECHNOLOGY

United Parcel Service (UPS) started out in 1907 in a closet-sized basement office. Jim Casey and Claude Ryan—two teenagers from Seattle with two bicycles and one phone—promised the “best service and lowest rates.” UPS has used this formula successfully for more than 100 years to become the world’s largest ground and air package delivery company.

The firm has been able to maintain leadership in small-package delivery services despite stiff competition from FedEx and Airborne Express by investing heavily in advanced information technology. UPS spends more than \$1 billion each year to maintain a high level of customer service while keeping costs low and streamlining its overall operations. It all starts with the scannable bar-coded label attached to a package, which contains detailed information about the sender, the destination, and when the package should arrive. Customers can download and print their own labels using special software provided by UPS or by accessing the UPS Web site. Before the package is even picked up, information from the “smart” label is transmitted to one of UPS’s computer centers in Mahwah, New Jersey, or Alpharetta, Georgia, and sent to the distribution center nearest its final destination. Dispatchers at this center download the label data and use special software to create the most efficient delivery route for each driver that considers traffic, weather conditions, and the location of each stop.

UPS estimates its delivery trucks save 28 million miles and burn 3 million fewer gallons of fuel each year as a result of using this technology. To further increase cost savings and safety, drivers are trained to use “340 Methods” developed by industrial engineers to optimize the performance of every task from lifting and loading boxes to selecting a package from a shelf in the truck.

The first thing a UPS driver picks up each day is a handheld computer called a Delivery Information Acquisition Device (DIAD), which can access one of the wireless networks cell phones rely on. As soon as the driver logs on, his or her day’s route is downloaded onto the handheld. The DIAD also automatically captures customers’ signatures along

with pickup and delivery information. Package tracking information is then transmitted to UPS's computer network for storage and processing. From there, the information can be accessed worldwide to provide proof of delivery to customers or to respond to customer queries. It usually takes less than 60 seconds from the time a driver presses "complete" on a DIAD for the new information to be available on the Web.

Through its automated package tracking system, UPS can monitor and even re-route packages throughout the delivery process. At various points along the route from sender to receiver, bar code devices scan shipping information on the package label and feed data about the progress of the package into the central computer. Customer service representatives are able to check the status of any package from desktop computers linked to the central computers and respond immediately to inquiries from customers. UPS customers can also access this information from the company's Web site using their own computers or mobile phones. Anyone with a package to ship can access the UPS Web site to check delivery routes, calculate shipping rates, determine time in transit, print labels, and schedule a pickup, and track packages. The data collected at the UPS Web site are transmitted to the UPS central computer and then back to the customer after processing. UPS also provides tools that enable customers, such as Cisco Systems, to embed UPS functions, such as tracking and cost calculations, into their own Web sites so that they can track shipments without visiting the UPS site.

Case Question

- a) What are the inputs, processing, and outputs of UPS's package tracking system? (4 marks)
- b) What technologies are used by UPS? (4 marks)
- c) From the Case Study identify and explain at least **THREE** strategic business objectives addressed by UPS information System. (6 marks)
- d) Explain **THREE** problems being solved by UPSs Information System.(6 marks)