



UNIVERSITY EXAMINATIONS: 2013/2014
EXAMINATION FOR THE MASTER OF SCIENCE IN
DATA COMMUNICATIONS
MDC 6402 ICT IMPACT ON SOCIETY

DATE: AUGUST, 2014

TIME: 2 HOURS

INSTRUCTIONS: Answer Question One and Any Other Two Questions

QUESTION ONE: [20 Marks]

In 2001, the United Nations established the United Nations Information and Communication Technologies (ICT) Task Force,¹⁸ which aims at boosting global development and competence in information technology. UN Secretary-General Kofi Annan outlined the mission of the ICT Task Force:

“The new technologies that are changing our world are not a panacea or a magic bullet. But they are, without doubt, enormously powerful tools for development. They create jobs. They are transforming education, health care, commerce, politics and more. They can help in the delivery of humanitarian assistance and even contribute to peace and security. One of the most pressing challenges in the new century is to harness this extraordinary force, spread it throughout the world, and make its benefits accessible and meaningful for all humanity, in particular the poor.”

- a) Using the concept of development, discuss why it is difficult to measure the impact of ICT on development. (5 Marks)
- b) Based on the above extract, write short explanatory notes on the POSITIVE impacts of ICT on
 - (i) Education
 - (ii) Health
 - (iii) Politics.

For each case, outline the major technologies used and how data communications technologies

can be used to enhance the positive impacts

(5 Marks each)

QUESTION TWO (15 MARKS)

As the world gradually interconnects into a global village, many national governments have raised concerns that the consequences of today's turbulent events (i.e., terrorism, mass immigration) could negatively affect the security and welfare of their citizens. These concerns intensified the need for accurately keeping track of the persons who travel across national borders, especially by air. To this end, many travel related organizations were mandated to implement new systems and procedures designed to improve security and identity management and reduce fraud. For example, travel security agencies instituted mandatory security screenings and imposed restrictions on the items allowed aboard commercial aircraft, while border control authorities deployed sophisticated identity management systems. At the heart of many of these systems lies an advanced technology—biometric authentication—which is currently gaining substantial ground because of its accuracy, efficiency, and ease of use. Although most travel-related biometric applications have been deployed in mandatory settings (i.e., mandatory identity verification), recently, a number of biometric applications became available to travelers for use on a voluntary basis (i.e., unforced enrollment/use in airports). They are generically called registered traveler systems or programs. These systems play a vital role in the security of air travel as they generate a voluntary segregation of travelers into “registered,” believed to be low risk, and “nonregistered,” believed to be higher-risk. This segregation allows security agencies to devote more resources to higher-risk travelers, about whom little is known, to prevent/neutralize security threats. Registered travelers enjoy certain benefits, including a better predictability of the time dedicated to security checks, and faster and more secure processing.

- a) Using your own words, define what is biometrics and identify at least TWO business benefits of using this technology in the travel sector (6 Marks)
- b) Explain the LEGAL, ETHICAL and SOCIAL issues that a business may face while trying to use biometrics in this sector (9 Marks)

QUESTION THREE (15 MARKS)

- a) What is E-government? Illustrate your answer using suitable examples from a government or government department with which you are familiar (3 Marks)
- b) Discuss THREE NEGATIVE impacts of ICT on e-government and therefore the citizens (6 Marks)

- c) Identify and discuss TWO NEGATIVE impacts of ICT on the environment, and identify ways in which each impact can be ameliorated. (6 Marks)

QUESTION FOUR (15 MARKS)

Several indices and measures have been developed to describe the relationship between ICT, society and development.

Describe each of the following ;

- (i) E-intensity
- (ii) E-Readiness
- (iii) E-Impact

And draw a concept map on how they are related to each other. Use relevant examples to illustrate each of them (15 Marks)