



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY

BIT 409: PROFESSIONAL ETHICS IN INFORMATION TECHNOLOGY

DATE: 8TH DECEMBER 2017

TIME: 10.30 -12.30 PM

INSTRUCTIONS TO CANDIDATES

- a) Answer **ALL** questions from section A(Compulsory)
 - b) Answer **ANY TWO** questions from section B
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QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Discuss the four key technological trends responsible for raising new ethical issues brought by information technology. **(4 marks)**
- b) Telecommuting refers to an arrangement where employees spend a significant portion of their work day at a distance from the employer or traditional work place. Using suitable examples, explain:
 - i. Two advantage of telecommuting **(2 marks)**
 - ii. Two disadvantage of telecommuting **(2 marks)**
- c) Millions of people have a computer-related job title, such as computer engineer, computer scientist, programmer, software engineer, system administrator, or systems analyst.
 - (i) Is a computer-related career a profession like medicine or law?.
 - (ii) Ford and Gibbs have identified eight components of a mature professional infrastructure. Explain any five. **(6 marks)**

- d) Joe Spencer, a system administrator for a large corporation is installing a new software package on the PC used by employee Chuck Desmond. The company has not authorized Joe to read other people's emails, Web logs, or personal files. However, in the course of installing the software, he accidentally comes across directories containing files with suspicious-looking names. He opens a few of the files and discovers they contain child pornography. Joe believes possessing such images is against the law.
- i. Define the term Code of Ethics. **(2 mark)**
 - ii. Using the *Software Code of Ethics and Practice AND the Alternative Fundamental Principles*, explain what action Joe should take. **(3 marks)**
- e) There are three legal mechanisms that can be used by those who create software to claim ownership in and protect their creations. Describe each of these mechanisms. **(3 marks)**
- f) New technologies, including computers, create new opportunities for committing crime.
- i. Using a suitable example, explain computer crime. **(2 marks)**
 - ii. Compare and contrast the terms computer crime and computer abuse. **(2 marks)**
- g) There are always trade-offs with software quality measures, as it is impossible to optimize for everything. Discuss the following sets of possible trade-offs between pairs of quality measures.
- i. Functionality vs. Usability **(2 marks)**
 - ii. Cost vs. Reusability **(2 marks)**

SECTION B (40 MARKS)

Answer two questions from this section

QUESTION TWO

- a) In sharing of information, there is need to uphold privacy. The Publicity Principle, which is defined as “rules and conditions governing private situations should be clear and known to the persons affected by them”, is applied. Discuss, using an example, how the Publicity Principle can be applied. **(8 marks)**
- b) Today, the Internet Service Providers (ISPs) routinely make a wide variety of communication forums available to their customers, raising accountability issues. Explain any three issues. **(6 marks)**

- c) Describe the following Basic Ethical Concepts, giving an example of each.
- i. Responsibility (2 marks)
 - ii. Accountability (2 marks)
 - iii. Liability (2 marks)

QUESTION THREE

- a) Today, there are four different ways in which individuals and organizations protect their intellectual property. Explain them. (4 marks)
- b) The Data Protection Act of 1998 lays down eight data protection principles, which apply to the collection and processing of personal data of any sort. Using relevant examples, explain any three (3) of these principles. (6 marks)
- c) A good deal of concern has been expressed in recent years about computer and information technology and the Internet widening the gap between haves and have-nots among countries of the world. The phrase “the digital divide” is now used to refer to this issue. Describe two (2) factors that contribute to this issue. (4 marks)
- d) ‘Fair Use’ is a term used when discussing intellectual property rights.
- i. Define the term ‘Fair Use’. (2 mark)
 - ii. List four (4) factors that need to be considered when determining a case of ‘Fair Use’. (4 marks)

QUESTION FOUR

- a) Privacy in the information age is an important ethical issue given the amount of personal information in various electronic databases.
- i. Define privacy. (2 marks)
 - ii. Explain the difference between an opt-in policy and an opt-out policy. (4 marks)
- b) The Software Engineering Code of Ethics and Professional Practice is a practical framework for moral decision-making related to problems that software engineers may encounter. Explain the eight principles as outlined in this code. (8 marks)
- c) *An organization dedicated to reducing spam tries to get Internet service providers (ISPs) in an East Asian country to stop the spammers by protecting their mail servers. When this effort is unsuccessful, the anti-spam organization puts the addresses of these ISPs on its “black list.” Many ISPs in the United States consult the black list and refuse to accept email from the blacklisted ISPs. This*

action has two results. First, the amount of spam received by the typical email user in the United States drops by 25 percent. Second, tens of thousands of innocent computer users in the East Asian country are unable to send email to friends and business associates in the United States. (6 marks)

Questions

1. Did the anti-spam organization do anything wrong?
2. Did the ISPs that refused to accept email from the blacklisted ISPs do anything wrong?
3. Who benefited from the organization's action?
4. Who was hurt by the organization's action?
5. Could the organization have achieved its goals through a better course of action?
6. What additional information, if any, would help you answer the previous questions?