



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
ETHICS AND PROFESSIONALISM
SCS 1215

August 2024

This examination paper consists of 3 pages

Time Allowed: 3 hours
Total Marks: 100
Examiner's Name: Miss N. Ncube
External Examiner: Dr. C. Gombiro

INSTRUCTIONS

1. Answer any four (4) questions
2. Each question carries 25 marks

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
TOTAL FOR ANY FOUR QUESTION	100

QUESTION ONE

- a) Consider two ethical principles of your choice. What is the best justification for these principles? Consider some reasonable alternative justification for these principles. Why is your justification better? [5]
- b) The IT industry is increasingly aware of its environmental impact. Describe at least one environmental problem to which the industry contributes and how, as an IT professional, you can help to solve this problem. [10]
- c) Many people fear that the development of intelligent robots could have devastating consequences for the human race. Is it ethical to do research in AI? [10]

QUESTION TWO

- a) Name two kinds of ethical theory and give a defining characteristic for each. [4]
- b) Three different kinds of law have been used to establish ownership and control of software and each has some problems. Name such laws and state at least one unique characteristic or problem associated with each kind. [6]
- c) Define the steps of the ethical decision-making process [7]
- d) The Data Protection Act 1998 sets out eight principles for the protection of privacy in data collection, handling and distribution. Name four of these principles and explain how each serves to protect privacy. [8]

QUESTION THREE

- a) What is the difficulty in trying to claim that people have natural rights to the ownership of intellectual property such as software? Is there a consequentialist justification for maintaining ownership of intellectual property such as software? [5]
- b) Discuss three types of computer attacks along with real-world case scenarios of each. [20]

QUESTION FOUR

- a) State 5 relationships that an IT professional must manage, and what key ethical issues can arise in each. [10]
- b) The professional standards of the British Computer Society's Code of Conduct are organised into four groups of standards. State these four groups and discuss the general concerns of each group. [15]

QUESTION FIVE

- a) People can now do much of their shopping online and have the goods delivered to their homes, so they never need to leave home to go shopping. Might this have consequences for society? [5]
- b) What is privacy? Is it important and, if so, why? [5]
- c) Would you consider your privacy to be compromised(also explain why) if:
- i. One of your neighbors kept a log of all the times you came home and went out. [5]
 - ii. Details of everything you bought from the shops were to be made publicly available, e.g. on the Internet? [5]
 - iii. You received a direct mail from a supermarket where you shop saying that it had analyzed your purchases and that you appeared to have an unhealthy diet, consequently it was advising you to eat more fruit and vegetables. [5]

END OF QUESTION PAPER

