NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE

COMPUTER SCIENCE DEPARTMENT

DECEMBER EXAMINATIONS 2004

SUBJECT: PROFESSIONAL PRACTICE AND ETHICS
CODE: SCS2105

INSTRUCTIONS TO CANDIDATES
This examination paper contains seven questions.
Duration : 3 hours
Answering : Answer all questions in Section A.
Answer any three questions in Section B.
Each question carries a possible maximum of 20 marks.

3 HOURS

SECTION A

QUESTION 1

Below is an extract of CSZ-ICT IT professional body for its members.
For each rule, outline the possible consequences if an IT professional contravened that rule.

Rule 1
A professional shall respect the confidentiality of information acquired in the course of his/her work and should not disclose any such information to a third party without specific authority or unless there is a legal or professional duty to disclose. [5]

Rule 2
A professional shall use his/her special knowledge, experience and position to protect the interests of the public and to refrain from misrepresenting the capabilities, applications and benefits of IT systems for personal gain. [5]

Rule 3
A professional shall not withhold information on the capabilities of products, systems or services with which he/she is concerned or take advantage of the lack of knowledge or inexperience of others. [5]

Rule 4
A professional is obliged to disclose to a client, when acting as a consultant and before accepting instructions, any personal or financial interests which might influence the work for that client. [5]

QUESTION 2

The NUST Director of Computing Services invited input from the University community on what should govern conduct in the student's Computer laboratories. He received the following suggestions:

Submission 1
Any computer tape, disk (hard drive, CD or floppy) or other storage medium used on the university's computers must be rendered unreadable before it is discarded or disposed of.

Submission 2
All students will safeguard their computer personal identity numbers (PINS), user names and passwords.

Submission 3
No student will allow unauthorized persons access to university data or computing or network resources by sharing their PIN, user name and password.

Submission 4
No student will knowingly violate software licenses or copyrights during their courses or at any time while using university equipment or software.

For each submission above, explain whether it should be adopted as part of the laboratory's regulations and why. **[20]**

SECTION B

QUESTION 3

Explain how the following factors make modern computer systems susceptible to computer misuse and crime:

(i)   Heavy dependence on electronics and digital technology.   **[5]**

(ii) The need to make a system available to a variety of diverse users.   **[5]**

(iii) Increase in complexity in the design of application systems.   **[5]**

(iv) Increase in complexity of memory management techniques.   **[5]**

QUESTION 4

(a) The following is part of Amokachi Limited's Computer Use Policy:
"Employees should not have any expectation of privacy when utilizing the company's computing resources, even if the use is for personal purposes. The company reserves the right to inspect, without notice, the contents of computer files, regardless of medium, the contents of electronic mailboxes and outputs, such as printouts."

Is there any violation of privacy of the employees of Amokachi Limited ?

Discuss.   [8]

(b) *"Our employees are ethical so we do not need an ethics code in our organization".*
Give reasons why this statement may not be true.   [6]

(c) *"Our organization is not in trouble with the law, so we are ethical".* Give two reasons why this statement may not be valid.   [6]

QUESTION 5

(a)   Dr Ngwalo, is an IT professional who made the following assertion:
       "To enforce ethical standards on website developers there should be a world-class, internationally recognized license, embodying both technical and ethical elements. No website developer would be allowed to practise without this license. This will make website developers accountable to the industry and public interest".

   (i)   State two potential problems that may arise for the **local** IT industry if Dr Ngwalo's assertion is adopted.   [8]

   (ii)   State two potential problems that may arise for the **international** IT industry if Dr   Ngwalo's assertion is adopted.   [8]

(b) Give and briefly explain any two examples of computer crime.   [4]

QUESTION 6

For the following ethics resources, state two criticisms leveled against each resource as a basis for encouraging ethical behaviour:

(i)   Laws of the country.   [4]

(ii)   Religion.   [4]

(iii)   Conscience self-regulation.   [4]

(iv)   Moral self-regulation.   [4]

(v)   Culture.   [4]

QUESTION 7

(a) State any three forms of intellectual property.   [6]

(b) Explain why it is difficult to patent a computer program.   [8]

(c) Describe the following terms as they apply to computing:

    (i)   Computer worm.   [2]

    (ii)   Time or logic bomb.   [2]

    (iii)   Computer trojan horse.   [2]

END OF QUESTION PAPER

GOOD LUCK!

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