

Name: _____, _____
(last) (first)

Student Number: _____

Section: A Instructor: P. Cribb

York University
Faculty of Science and Engineering
Department of Computer Science and Engineering

Final Exam
2:00- 4:00 pm, December 15, 2011

CSE3000.03 – Professional Practice – Fall term, FW11

Instructions:

1. Examination rules are in effect.
2. Fill in the information requested at the top of this page and print your name at the top of all the other pages.
3. Answer ALL questions. Answer questions in the space provided.
4. Time allowed is 120 minutes.
5. Use of calculators is NOT permitted.
6. Including the cover there are 8 pages with parts 17 questions. Please check the pages.

	<u>Value</u>	<u>Mark</u>
A.	14	_____
B.	31	_____
Total:	45	_____

Part A: Multiple Choice

[14 points] Each question is worth 1 point except where indicated. For questions worth 2 points one answer is best and will earn the 2 points, but a second answer will receive 1 point.

For each question circle the letter of the *best* response.

1. Which of the following is not an element of a person's right to information privacy when visiting a website:
 - A. That data is collected only with informed consent
 - B. That data can be challenged and corrected
 - C. That the privacy policy is presented prior to collecting data**
 - D. To be told the purpose at the time data is collected
 - E. That data will not be disclosed to others without consent
2. In Canada which of the following elements of law does not limit free speech?
 - A. The Charter of Rights and Freedoms
 - B. Certain sections of the Criminal Code
 - C. Certain sections of the Canadian Human Rights Act
 - D. Civil Law
 - E. The Privacy Act**
3. Organisations should protect personal information by a variety of measures, but which of the following would be problematic?
 - A. Physical methods such as locked cabinets and restricted access to offices
 - B. Organizational measures such as security clearances and "need-to-know" access
 - C. Technological measures such as encryption
 - D. Monitoring employee's email**
 - E. Restricting use of storage media such as USB keys, and laptop and other mobile computing
4. [2 points] The basic principles of a free society imply that the primary beneficiary of free speech is
 - A. The speaker (1 pt)**
 - B. The listener (2 pts)**
 - C. The minority racial groups
 - D. Minority religious groups
 - E. The government

5. Which of the following does not protect intellectual property
- A. Copyright law
 - B. Trademark law
 - C. Patent law
 - D. Trade secrets
 - E. Access to Information laws**
6. In Canada patent law protection lasts for
- A. 17 years from the date of invention
 - B. 20 years from the date of filing**
 - C. 17 years from the date of filing
 - D. 20 years from the date of invention
 - E. The lifetime of the inventor
7. [2 points] Copyright protection extends for
- A. The lifetime of the creator
 - B. The lifetime of the creator plus 50 years (1 pt)**
 - C. The lifetime of the creator plus 30 years
 - D. The lifetime of the creator, plus the rest of the calendar year, plus 50 years (2 pts)**
 - E. 20 years from the date of creation of the work
8. [2 points] Copyright protects, , ,
- A. fixed expression of ideas (2 pt)**
 - B. creative or artistic works (1 pts)**
 - C. ideas themselves
 - D. application of ideas
 - E. all of the above

9. Lawful access refers to the legal regime by which
- A. the public is able to access government held digital information
 - B. corporations are able to access digital information held by other corporations
 - C. law enforcement organizations may access digital information held by ISPs and telecommunications companies**
 - D. Statistics Canada may access e-commerce transaction data held by retailers
 - E. the government may access digital health information of Canadians
10. Which of the following is not an exception to infringement under current Canadian Copyright law
- A. Fair dealing
 - B. Copying by an educational institution for instruction or examination
 - C. Back-up of a computer program
 - D. Translating a computer program into another computer language when necessary for compatibility and personal use
 - E. Copying that's not for commercial gain**
11. Computer crime is a challenge to law enforcement because
- A. It is often global rather than local
 - B. Traditional methods of gathering evidence cannot be used
 - C. There are often no witnesses
 - D. Individual incidents are often small and not reported
 - E. All of the above**

Part B: Short answer questions (mostly!)

Be concise – the space on the page is sufficient; consider using point form even, i.e. grammar is not marked.

12. [3 points] Briefly describe why safe harbor provisions exist in the USA.

US privacy law does not meet EU requirements; but organisations that voluntarily agree to meet EU requirements are included on a “safe harbor” list and may exchange data with EU organisations.

13. [3 points] The “novelty” criteria for awarding a patent means that the invention should not already have been disclosed, or known to others, for more than 12 months prior to filing the application. Discuss the implications for the IT industry and academic research.

Progress/innovation may be slowed by attempts to keep new technologies secret until an application can be filed; academic publication inhibited by patenting constraints; concern that a new technology may in fact not be new (someone else may be first to file) and then licensing fees may add to expenses.

14. [3 points] Briefly describe the concept of “not obvious” as a criteria for awarding a patent.

A skilled person in the field would not be able to stumble upon the approach; i.e. it requires some spark of innovation/creativity that is beyond what any normally skilled person would think of.

15. [8 points; 1 points each] Computer crimes fall into the following broad categories. Give one example of a specific illegal activity in each case:

Offences against the:

- a. *Confidentiality of computer data*

Stealing usb or laptop with data; hacking specifically to obtain data

- b. *Integrity of computer data*

Virus that erases data; hacking specifically to change data

- c. *Availability of computer data*

Denial of service attack; preventing access via virus

Offences against the:

- a. *Confidentiality of computer systems*

Hacking to gain root access, thereby controlling the system

- b. *Integrity of computer systems*

Running a botnet

- c. *Availability of computer systems*

Denial of service attack

- d. *Computer-related offences (in which the computer facilitates criminal activity that could take place by other means).*

Stalking; social engineering-type fraud

- e. *Content-related offences*

Copyright offences; defamation; pornography

16. [6 points] You have been working for company X for about six months as a computer programmer. Recently X has been occupied with reengineering the inventory system of a local hardware chain, ABC, with the objective of enabling better tracking of inventory, more responsiveness to changes in customer demand, and so forth. Your supervisor asks if you know of any existing software products that help keep better track of inventory and you mention a particular product that you have worked with in another job the only drawback being that the software is somewhat expensive. Your supervisor says, “We have that software. Why don’t you just install it on ABC’s computers?” You indicate that this would violate the licensing agreement X has for the software but your supervisor says “Do it anyway, nobody’s going to find out, and this is a very important client who we need to keep happy.”

Rank the following options in order (1 is your top choice) of what you would do in this situation.

- | | <u>Rank</u> |
|---|---|
| a. Install the software - after all your supervisor is right: nobody will know and furthermore, you haven’t been working for this company very long and don’t want to be branded a troublemaker. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">6</div> |
| b. Refuse to do it, clearly telling your supervisor that he is putting you in a very difficult position, and you are not happy about it; it is illegal, and you don’t have to do it. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">1</div> |
| c. Ask the hardware chain if they want you to install software for which they don’t have a license, report their decision to your supervisor. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">4</div> |
| d. Install the software but cover yourself by writing a memo to several people within the company, including your supervisor, stating that this is illegal, and you are doing it because your supervisor has left you no choice, that your supervisor is responsible for the act. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">5</div> |
| e. Discuss the matter confidentially and informally with another colleague, preferably someone with authority over your supervisor. If this person’s reaction is good, then both of you can approach your supervisor to try to talk him out of this course of action. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">3</div> |
| f. Propose some concrete alternatives such as using a less expensive program, getting the license for the hardware chain and having X, your company, absorb part of the cost, or negotiating a deal with the owner of the program to extend the license to several users at a lower rate. | <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2</div> |

17. [8 points] You are working for a software company and are involved in the design of specialized software in connection with the operations of a facility that controls water quality for a city. Testing the software system is part of the design process and you have determined that it is safe to use under existing standards. But you are aware that new draft standards are about to be released that the newly designed software may not meet. You could suggest that your company and its client perform more tests on the software to see if it meets these new safety standards but the client is eager to move forward and your company is eager to satisfy the client. Doing the tests would be extremely costly and delay the project by at least six months thereby putting your company at a competitive disadvantage possibly jeopardizing your company's finances, existing jobs, and business from the client. Testing would also result in a significant rise in water utility rates for the public during whatever period of delay occurs. At the same time, management in your software company wants to be sure that the software is safe to use.

Your company asks for your recommendation.

The CIPS Code of Ethics includes the principles/imperatives. Rank the importance of each of these (1 being most important) in guiding your response to this situation, with a brief explanation.

- | | Rank |
|---|----------|
| 1. Protecting the Public Interest and Maintaining Integrity | <u>1</u> |
| 2. Demonstrating Competence and Quality of Service | 2_____ |
| 3. Maintaining Confidential Information and Privacy | 4_____ |
| 4. Avoiding Conflict of Interest | 5_____ |
| 5. Upholding Responsibility to the IT Profession | 3_____ |