IT4301: Professional Issues in IT
PART 2 –Structured Question Paper
31ˢᵗ July, 2004
TWO HOURS

To be completed by the candidate

BIT Examination Index No: _____

Important Instructions:

- The duration of the paper is 2 **(two) hours**.

- The medium of instruction and questions is English.

- The paper has **6 questions** and **16 pages**.

- **Answer questions 1 and 2 which are compulsory (**30% marks each**) and any two of the other questions (**20% marks each**) and no more**.

- **Write your answers** in English using the space provided **in this question paper**.

- Do not tear off any part of this answer book.

- Under no circumstances may this book, used or unused, be removed from the Examination Hall by a candidate.

- Note that questions appear on both sides of the paper.
  If a page is not printed, please inform the supervisor immediately.

Questions Answered

Indicate by a cross (✗), (e.g. ✶) the numbers of the two questions answered.

To be completed by the candidate by marking a cross (×).	Question numbers						
	1	2	3	4	5	6	
To be completed by the examiners:							

Question No.1 is based on the following CASE STUDY I.

Nimal is a Senior Software Engineer at a State Corporation and his superior officer is Sarath, the IT Manager. Nimal is a graduate in Computer Science from the University of Colombo and is also a member of the British Computer Society. Sarath has no formal qualifications in Computing but has been an executive at the State Corporation for the last 20 years. He has a good working knowledge of the affairs of the Corporation and has been the IT Manager since the inception of the IT division fifteen years ago. Further, Sarath is not a member of any Computer Society but is the President of the Executive Officers' Union. Nimal has several programmers under him and is responsible for the smooth operation of the computer system of the Corporation where information on personnel, financial transactions, salaries, provident funds, stocks etc. are stored and processed. The IT Manager however is in overall control and reports to the Chief Executive Officer. Being a state Corporation, the Chief Executive Officer is answerable to the Ministry Secretary and the Minister himself.

The Minister was keen on launching a website for his Ministry and entrusted it to Sarath who in turn requested Nimal to use his staff to create same. Nimal selected one of his competent staff members, Manjula to design a prototype to be demonstrated to the Minister. Manjula then met with Sarath to find out the requirements of the site and was told to meet the Ministry Secretary bypassing the Chief Executive Officer.

Manjula spent most of his time in developing the website and was not able to devote much time to his normal work. Due to this, the reports which normally had to be submitted to the Chief Executive Officer were delayed resulting in loss of revenue. The Chief Executive Officer called for explanations from both Sarath and Nimal. Owing to this, Manjula was also deprived of attending a seminar for which he was nominated by Nimal.

When the prototype of the website was shown to the Minister, he directed Sarath to arrange for an official launch after hosting the site at the Corporation and to provide public access to information on the Corporation through the site via the internet. The Corporation was directed to meet all costs. Sarath was also directed to create a post of webmaster and appoint Manjula to the post which would be directly under Sarath in addition to his normal duties under Nimal.

When purchasing the necessary equipment, software and services, approval of the Chief Executive Officer was needed but he refused to give approval. In view of the urgency and importance of fulfilling the Minister's request, Sarath requested Nimal to use Corporation resources to a minimum and launch the site. The only funds available were earmarked for security measures and Nimal decided to fund the requirements from Corporation resources by diverting the funds meant for the purchase of anti virus software and other urgent security requirements.

At the launch, when the Minister inaugurated the website by clicking on the icon, the home page appeared but was soon replaced by a derogatory statement that flashed across the screen. This ugly incident resulted in the dignitaries present being embarrassed and the management furious.

Question 1   (COMPULSORY)   (30 marks)

1) (a) How does the attitude of Nimal differ from that of Sarath with respect to professional issues?

(04 marks)

ANSWER IN THIS BOX

Continued..

[Answer box]

(b) How should Sarath and Nimal respond to the explanations called for by the Chief Executive?

(06 marks)

ANSWER IN THIS BOX

(c) What steps should Nimal take regarding the selection of information to be released to the public through the web site?

(04 marks)

<u>**ANSWER IN THIS BOX**</u>

(d) If Sarath requests Nimal to install pirated anti virus software, what should be his reaction?

(03 marks)

<u>**ANSWER IN THIS BOX**</u>

(e) Is Manjula having a conflict of interests in his duties?

(03 marks)

<u>**ANSWER IN THIS BOX**</u>

(f) Explain in detail what measures should have been taken by each of the following, Manjula, Nimal, Sarath, Chief Executive Officer and the Secretary, to prevent such an ugly incident.

(10 marks)

ANSWER IN THIS BOX

CASE STUDY II **Question 2 (COMPULSORY)** **(30 marks)**

2) Based on the following case study II, answer the questions which follows.

Kamal, a professional software engineer, is a free lance consultant for many software companies. His personal computer has two operating systems. One is a Linux operating system which he installed himself and the other is Microsoft Advanced Server which was already installed by the supplier when he purchased the machine. This operating system has not been licensed either by him or the vendor. He noticed that in addition to the operating system, Microsoft Office was also available in his machine.

Since he does not have any licensed tools to create presentation slides, he uses Microsoft Power Point to create such slides about a new project, for a presentation for the top level management of ABC (Private) Ltd., a leading software development company.

The Board of Directors of the company fully satisfied with him, had asked the company legal officers to draft the necessary documents to carry on with the project.

The CIO proposed that if the company uses open source software, it can get certain advantages. One of the developers in this company, Shantha, noticed that an open source compiler is available under GNU GPL license, which has been obtained under license and modified to suit their requirement. Later, they realized that there is a heavy demand for the modified compiler. As similar proprietary software available in the market was very expensive, they decided to sell the object code at a competitive price. If some one wanted to obtain the source code as well he was asked to pay more.

Sarath, another developer, went through the GNU GPL license and gave, for academic purposes, the same modified version of the compiler and other proprietary tools belonging to the company to one of his friends studying at a university.

The company creates video conferencing units using a small digital camera which was patented in USA. In addition to the camera, this unit contains an electronic circuit, a computer chip where the compiler is embedded and a web based interface. A user can write small programs using the web interface and compile the code. In developing the web based interface, Apache modules under Apache Software License have been used.

(a) If the company obtains the compiler under GNU GPL license, does the company have the following rights?

(i) To modify the compiler

(03 marks)

ANSWER IN THIS BOX

(ii) To charge royalty for the modified programme

(03 marks)

ANSWER IN THIS BOX

(iii) To prevent giving the source code of the modified programme

(03 marks)

ANSWER IN THIS BOX

(iv) To charge a fee for the cost of the CD which contains the programme?

(03 marks)

ANSWER IN THIS BOX

(b) Can Sarath copy and distribute the compiler to his friend?

(04 marks)

ANSWER IN THIS BOX

(c) Can Sarath copy and distribute the other proprietary software to his friend?

(05 marks)

ANSWER IN THIS BOX

(d) Can Kamal, under the copyright law, protect his presentation which was prepared using unlicensed software on an unlicensed operating system?

(04 marks)

__ANSWER IN THIS BOX__

(e) Can this video conferencing unit be copyrighted/ patented? Justify your answer.

(05 marks)

__ANSWER IN THIS BOX__

3) **Question 3 (OPTIONAL) (20 marks)**

You as the Chief Information Officer (CIO) of a large company with over 100 computer professionals under you, are requested by your Chief Executive Officer (CEO) to draft a code of conduct for the computer professionals employed by the company taking such codes as a guide as are available for professional bodies.

(i) Indicate below   the major components of such a code describing why such components are included and the benefits of each such component to the company and to society.

(ii) Would the employees of the company who follow   such a code be eligible to be members of the Computer Society of Sri Lanka? Explain giving reasons.

(20 marks)

ANSWER IN THIS BOX

(i)

(ii)

4) **Question 4 (OPTIONAL) (20 marks)**

Part A (10 Marks)

(a) Indicate four types of computer misuse giving a comprehensive explanation of each with examples.

(02 marks)

ANSWER IN THIS BOX

(b) Explain in detail the role of a computer professional with respect to

(i) Society at large

(02 marks)

ANSWER IN THIS BOX

(ii) The IT profession

(02 marks)

ANSWER IN THIS BOX

(iii) The IT industry

(02 marks)

ANSWER IN THIS BOX

(iv) National IT policies

(02 marks)

ANSWER IN THIS BOX

Part B (10 marks)

A list of ten key words is given in Column I on the left hand side and relevant meanings, also ten in number, are given in Column III on the right hand side. Match each keyword to the appropriate meaning in Column III and write down the corresponding Roman numeral in column II. Each key word may have more than one meaning but, each box of column II should contain only one Roman numeral and no two such boxes should contain the same numeral. Marks would be deducted for incorrect matching.

(10 marks)

I	II	III
1. Cyber Forensics		**(i)** An account held in trust or as security until the occurrence of a certain condition
2. Asymmetric key crypto system		**(ii)** This is a common law tort. It occurs when misrepresentations made by a defendant damages the goodwill of a plaintiff.
3. Unfair competition		**(iii)** Can be copyrighted if this is original by virtue of the selection and arrangement
4. Undisclosed information		**(iv)** Preservation, identification, extraction, documentation and interpretation of computer media for evidentiary and/or root cause analysis using well-defined methodologies and procedures
5. Passing off		**(v)** This recognizes the rights of those who present literary and artistic works to the public.
6. Database		**(vi)** Prohibits collection of personal information of a particular class of persons in society
7. Related rights		**(vii)** Crime committed using a computer and the internet to steal a person's identity or sell contraband or stalk victims or disrupt operations with malevolent programs
8. ESCROW		**(viii)** A cryptographic system having a secure key pair consisting of a private key for creating a digital signature and a public key to verify the digital signature
9. Children online protection act		**(ix)** This protects secret information which has monetary value.
10. Cyber Crime		**(x)** An act, which is contrary to honest practices in commerce and industry

5) **Question 5 (OPTIONAL) (20 marks)**

(a) What objectives can a code of professional conduct serve?

(08 marks)

ANSWER IN THIS BOX

Continued..

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(b) Discuss the benefits and drawbacks of the three important characteristics of Internet namely,
    (i) Providing many-to-many communication on a global scale,
    (ii) Facilitating a kind of anonymity and
    (iii) Allowing reproducibility.

(12 marks)

<u>ANSWER IN THIS BOX</u>

Continued..

Question 6 (OPTIONAL)   (20 marks)

6) (a) What are the means of accepting on-line contracts?

(04 marks)

ANSWER IN THIS BOX

(b) Comment on the statement below.
"The university authority does have rights to monitor and read email messages of the staff and students"

(04 marks)

ANSWER IN THIS BOX

(c) "Fair use" is not an infringement of copyright law. Comment on the statement

(04 marks)

ANSWER IN THIS BOX

Continued..

(d) Saman creates a web page with popular Sri Lankan scenery. Since he does not have any original pictures, he creates links to other web sites which contain very beautiful scenery. He argues that, his act is not an infringement since he has not copied anything but is simply making links to other web sites where the viewer downloads the pictures from other sites. Comment on his statement

(08 marks)

ANSWER IN THIS BOX

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