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**UNIVERSITY OF COLOMBO, SRI LANKA**



**UCSC** UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)**

*Academic Year 2013/2014 – 3<sup>rd</sup> Year Examination – Semester 5*

***IT5104 - Professional Issues in IT***

***Structured Question Paper***

**08<sup>th</sup> March, 2014  
(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.
- This paper has **4 questions** and **16 pages**.
- **Answer all questions.**
- All Questions carry equal marks.
- **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 (x), (e.g. ☐) the numbers of the questions answered.

	Question numbers			
	1	2	3	4
<b><u>To be completed by the candidate by marking a cross (x).</u></b>				
To be completed by the examiners:				

**CASE STUDY 1****The Archaeology Data Service (ADS) / Arts and Humanities Data Service Centre for Archaeology (AHDS Archaeology)****The Terms of Use and Access to ADS/AHDS Resources**

The Archaeology Data Service (ADS) / Arts and Humanities Data Service Centre for Archaeology (AHDS Archaeology) supports research, learning and teaching in archaeology in the UK by promoting good practice in the use of IT, by preserving important digital research archives for the long term, and by making a large amount of data available online. Their online catalogue of archaeological resources, provides details of some 600,000 sites, monuments and research projects in the UK and wherever UK-based archaeologists work. In many cases, short descriptive records provide access to rich and detailed archives that may contain any form of digital object associated with archaeological research. Archives include very large quantities of text - theses, monographs and journal articles in digital form - as well as unpublished 'grey literature'. They include database files, images, CAD plans, geophysical and topographic survey, virtual realities, animations and statistical data. The vast majority of this data is supplied to ADS by external agencies or individuals who license ADS to distribute and preserve data on their behalf.

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- 1) (a) There are several different rights that relate to intellectual property. Outline the main rights that can be used to protect different aspects of a software or an information system.

**(03 marks)**

**ANSWER IN THIS BOX**

- (b) Explain the measures undertaken by ADS/AHDS to protect the Copyright of the digital research archives and the large amount of data available online through their catalogue of archaeological resources amounting to some 600,000 sites, monuments and research projects in the UK and wherever UK-based archaeologists work.

**(10 marks)**

**ANSWER IN THIS BOX**[illegible]



- (c) According to the Intellectual Property Act, No. 36 of 2003 Part II of the Parliament of The Democratic Socialist Republic of Sri Lanka, an owner of copyright of a work shall have the exclusive economic and moral right to carry out or to authorize certain acts in relation to the copyrighted work. Outline 3 economic rights and 2 moral rights of the copyright owner described in the above act.

(05 marks)

**ANSWER IN THIS BOX**

*Continued...*

- (05 marks)**

[illegible]

**ANSWER IN THIS BOX**

- (08 marks)**

**ANSWER IN THIS BOX**

7


- (b) Explain why Software Development is considered as an Engineering discipline, but not Accountancy, Marketing & Consultancy?

(04 marks)

**ANSWER IN THIS BOX**


- (c) Consider the quote “Compulsory registration of Software Engineers with a Professional Institute”. Do you think it is necessary or feasible? Explain your answer giving reasons for and against it.

(13 marks)

**ANSWER IN THIS BOX**


*Continued...*





**CASE STUDY 2**

A **rootkit** is a stealthy type of software, typically malicious, designed to hide the existence of certain processes or programs from normal methods of detection and enable continued privileged access to a computer.

A **Sony BMG Music CD** using rootkit technology introduced copy protection measures on about 22 million CDs without most consumers being aware of the consequences of rootkit technology. When inserted into a computer, the CDs automatically installed two pieces of software which provided a form of digital rights management (DRM) by modifying the operating system to interfere with CD copying. These programs could not be easily uninstalled, and they unintentionally created security holes that were exploited by unrelated malware such as worms or viruses. They constantly ran in the background and excessively consumed system resources, slowing down the user's computer, regardless of whether there is a protected CD playing or not. It employed unsafe procedures to start and stop, which led to system crashes. It had no uninstaller, and was installed in such a way that inexperienced attempts to uninstall it led to the operating system to fail to recognize existing drives.

One of the programs installed itself, even if the user refused its EULA (**end-user license agreement**), and it "phoned home" with reports on the user's private listening habits; the other was not mentioned in the EULA at all, contained code from several pieces of software in an apparent infringement of copyright, and configured the operating system to hide the software's existence, leading to both programs being characterized as rootkits.

Sony BMG initially denied that the rootkits were harmful. It then released, for one of the programs, an "uninstaller" that only un-hid the program, installed an additional software which could not be easily removed, collected an email address from the user, and introduced further security vulnerabilities.

Following public scandal, government investigations and class-action lawsuits in 2005 and 2006, Sony BMG partially addressed the scandal with consumer settlements, a recall of about 10% of the affected CDs, and the suspension of CD copy protection efforts in early 2007.

- 3) Answer the questions (a) and (b) using the scenario or CASE STUDY 2 given above.
- (a) Explain the relevant aspects of the BCS Code of Conduct, that should have influenced your actions as a computing professional in designing/ implementing the above DRM & Copy Protection Software used in the SONYBMG Music CDs.

**(15 marks)****ANSWER IN THIS BOX***Continued...*

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins or other markings on the paper.

- (b) Explain the relevant aspects of any legal consequences to SONY BMG that would occur when a customer installed a Music CD with copy protection or DRM software in his computer.

**(09 marks)**

**ANSWER IN THIS BOX**

**ANSWER IN THIS BOX**

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- (c) What action can a member or a non-member of BCS take if he/she becomes aware of any breach of the Code of Conduct by another member/non-member of BCS?

**(02 marks)**

**ANSWER IN THIS BOX**

- 4) (a) Summarize the tasks expected to be undertaken by the human resource department to ensure that the organization has the relevant IT workforce that it needs.

**(11 marks)**

**ANSWER IN THIS BOX**[illegible]

*Continued...*

[illegible]

- (04 marks)**

**ANSWER IN THIS BOX**

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- (c) Write short notes on 5 selection techniques that may be used in making professional appointments.

**(10 marks)**

**ANSWER IN THIS BOX**

*Continued...*

[illegible]