ALUPE UNIVERSITY COLLEGE

...*Bastion of Knowledge*...

OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2020 /2021 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER REGULAR EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE (COMPUTER SCIENCE)

COURSE CODE: COM 421

COURSE TITLE: ENGINEERING AND SOFTWARE LAWS

DATE: 13/07/2021 **TIME: 0800 – 1100 HRS**

INSTRUCTION TO CANDIDATES

   a. **SEE INSIDE**

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COM 421: ENGINEERING AND SOFTWARE LAWS

STREAM: COM   **DURATION: 3 Hours**

INSTRUCTION TO CANDIDATES

Answer **ALL** questions from section A and any **THREE** from section B.

SECTION A [24 MARKS] ANSWER ALL QUESTIONS.

QUESTION ONE [12 MARKS]

a. Define the following concepts as used in the study of Engineering and software laws.

    i.   Ethics   **[1 mark]**

    ii.   Professionalism   **[1 mark]**

    iii. Profession   **[1 mark]**

b. Using relevant examples differentiate between **computer Crime** and **cybercrimes**.

[4 marks]

c. Explain why it may not possible to full handle most technological cases using our courts?

[5 marks]

QUESTION TWO [12 MARKS]

a. State the copyright law   **[2 marks]**

b. Explain TWO condition a copyright must fulfil before registration.   **[4 marks]**

c. You have established a new technological-based company that deal with production of both computer hardware and software. Explain the guidelines that can be applied to the following:

    i.   Protecting hardware   **[2 marks]**

    ii.   Protecting source code software.   **[2 marks]**

d. State any TWO reasons why a license should be valid for a particular length of time or be renewed every now and again?   **[2 marks]**

SECTION B [36 MARKS] ANSWER ANY THREE QUESTIONS]

QUESTION THREE [12 MARKS]

a. What are the main steps followed when making an ethical choice?   **[4 marks]**

b. Distinguish between consequence-based and rule-based as principles of moral judgment.

[4 marks]

c. Discuss any TWO functions of computer codes of ethics to computer professions.**[4 marks]**

QUESTION FOUR [12 MARKS]

a. What is the distinction between copyright infringement and piracy? **[2 marks]**

b. Explain the following types of laws in relation to information protection.

    i.   Statute law   **[2 marks]**
    ii. Tort law   **[2 marks]**

c. Discuss any THREE characteristics of a computer science professional. **[6 marks]**

QUESTION FIVE [12 MARKS]

a. Differentiate between *privacy, secrecy* and *confidentiality* **[3 marks]**

b. An engineer needed a program to perform a series of complicated calculations. He found a computer programmer capable of writing the program, but would only hire the programmer if he agreed to share any liability that may result from an error in the engineer's calculations. The programmer said he would be willing to assume any liability due to a malfunction of the program, but was unwilling to share any liability due to an error in the engineer's calculations. What are legal implication in the scenario? **[3 marks]**

c. Justify the following arguments

i) Idea of intellectual property contradicts the idea of free culture in software development. **[3 marks]**

ii) Ethical values and legal principles are usually closely related, but ethical obligations typically exceed legal duties. **[3 marks]**

QUESTION SIX [12 MARKS]

a. State as accurately as you can FOUR of the eight principles of the 1998 Data Protection Act and briefly explain the reason for having each of these principles. **[4 marks]**

b. Ethical issues are not sufficient enough to solve problems related to computing. This has led to IT Professionals to develop codes of ethics for their members. Briefly outline the roles of the codes of ethics to computing field. **[4 marks]**

c. What moral obligations are incurred through becoming a member of a professional body such as the ACM or IEEE, and how would you justify these moral obligations?

[4 marks]

QUESTION SEVEN [12 MARKS]

a. How has the concept of computer hacking changed from its use before the advent of the internet and today? **[2 marks]**

b. Distinguish between consequence-based and rule-based as principles of moral judgment.

[4 marks]

c. What is the consequentialist justification for laws that give ownership and control of software to individuals or corporations (proprietary software)? What is the basic dilemma in giving individuals the ownership and control of software they wrote? Is there any alternative to working with privately owned (proprietary) software? **[6 marks]**

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