



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN**  
**ACTURIAL SCIENCE**  
**2<sup>ND</sup> YEAR 2<sup>ND</sup> SEMESTER 2016 ACADEMIC YEAR**  
**MAIN CAMPUS**

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**COURSE CODE: SCS 409**

**COURSE TITLE: IT AND SOCIETY**

**EXAM VENUE:**

**STREAM: ACTURIAL**

**DATE: DECEMBER 2016**

**EXAM SESSION:**

**TIME: 2.00 HOURS**

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**INSTRUCTIONS:**

- 1. Answer Question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

## QUESTION 1 (30 MARKS)

Read the case study below and answer the questions that follow:

Company X has just signed a business agreement with Company Y, which entitles both of them to access each other clients' records. Faisal, a software programmer at Company Z, was assigned the task of developing a software program that handles the access and retrieval of records from each Company's database system into the other. A first run of the software on real data indicated that the work was well within state of the art, and no difficulties were found or anticipated.

Several weeks later and during a routine test on the software developed, Faisal discovered a serious 'security hole' in the database system of Company Y by which hackers can easily obtain confidential information about clients. He was convinced that while the software he developed could correctly accomplish the task, the code in Company Y's database system could not be trusted as the security hole posed a threat even on Company X's database system. Faisal told his manager about the problem and explained its significance. The manager's response was, "That's not our problem; let's just be sure that our software functions properly." Faisal is not sure what to do. Refusing to work on the project means disobeying his manager's orders. Continuing to work on the project, means violating one of God's commands, which requires him to be truthful and sincere in his dealings?

- a) Identify and describe four key ethical concerns raised in this case study? **(8 marks)**
- b) Discuss the importance of data backing up in Information Technology **(5 marks)**
- c) Differentiate the following Terms: patent, trademark, and copyright **(6 marks)**
- d) Discuss three principles of fair use practice that Faisal should communicate to management **(6 marks)**
- e) Discuss any **FIVE** internet etiquette to be observed when using e-mail, chat rooms, and newsgroups **(5 marks)**

**QUESTION 2 (20 MARKS)**

- a) Explain the difference between computer theft and computer attack (4marks)
- b) What is green computing, explain any **FOUR** ways of achieving green computing (4 marks)
- c) Provide **TWO** reasons why Prosecution of computer crime is challenging in Kenya (4 marks)
- d) What are computer cookies, explain their functions and how they can be exploited by hackers (8marks)

**QUESTION 3 (20 MARKS)**

- a) Provide three differences between computer ethics and law (4 marks)
- b) Discuss five theories of information society (10marks)
- c) Discuss any three means of controlling who has access to the computer (6 marks)

**QUESTION 4 (20 MARKS)**

- a) Discuss any four main concepts of ethical analysis (8marks)
- b) Discuss any three types of patents that can be implemented by an organization (6 marks)
- c) Outline four trends in technological developments that may lead to ethical issues (4marks)

**QUESTION 5 (20 MARKS)**

- a) Discuss three types of ethical issues that may arise in an organization (6 marks)
- b) Describe four ethical dimensions of an information age (8 marks)
- c) In any society there exist two schools of thought on ethics. How one argues their position may define an act as good or bad.in this context, explain three ethical tensions (6marks)