ZCAS University

CIT2342 HUMAN SECURITY

MID SEMESTER EXAMINATION

19TH OCTOBER, 2023

16:30 HRS-19:30HRS

TIME ALLOWED : WRITING – THREE HOURS

READING – 5 MINUTES

INSTRUCTIONS:

1. Section A: this question is **compulsory** and must be attempted.

2. Sections B: Answer **THREE (3)** questions from this section.

3. This examination paper carries a total of **100 marks**.

4. Candidates must **not turn this page** until the invigilator tells them to do so.

5. Candidates are allowed to have in possession and use the **Data Protection Act, 2021** provided it has no added writings and comments.

SECTION A: Question 1 is compulsory and must be attempted

Question 1

Scenario: Telemedicine App's Impact on Rural Healthcare

In a rural region called Ngangula, located far from major cities, the community has long faced challenges when it comes to accessing healthcare services. The nearest hospital is over an hour's drive away, and many residents, particularly the elderly and those with limited mobility, find it challenging to make regular trips for medical check-ups.

Ngangula's healthcare infrastructure had been struggling to meet the needs of its residents, and then the COVID-19 pandemic struck, making matters even more complex. Local healthcare facilities were stretched to their limits, and the risks associated with in-person healthcare visits multiplied.

It was in this challenging context that a telemedicine app called "PineHealth Connect" was introduced. The app was designed to provide remote medical consultations, medication management, and general health advice to residents of Ngangula. It was accessible via smartphones, tablets, or even personal computers.

a) Evaluate the telemedicine app's privacy measures. What steps should the app developers take to protect patients' personal health information while still providing effective healthcare services?

(8 marks)

b) Considering the digital divide in Ngangula, how can the telemedicine app incorporate strategies to enhance health literacy and ensure all residents can make informed decisions about their health? In your answer, explain what is meant by digital divide. (8 marks)

c) Evaluate the app's accessibility features, particularly for users with disabilities and those who are illiterate. How can the app be further enhanced to ensure inclusivity and usability for all residents?

(8 marks)

d) To ensure compliance with data protection and cybersecurity regulations, the organization managing the telemedicine app must adhere to specific laws and acts, such as the Data Protection Act and relevant cybersecurity acts. In the Zambian setup, what legal responsibilities and safeguards should the organization put in place to protect patient data, ensure cybersecurity, and maintain privacy in line with these regulations? (16 marks)

(Total: 40 marks)

SECTION B: Attempt any THREE questions in this section

Question 2

a) Define human security and explain why cyber security personnel should study about people?

(6 marks)

b) List the six dimensions of human security. Provide a brief explanation of each. (6 marks)

c) Evaluate the challenges in balancing human rights and cyber security. What are the trade-offs involved in maintaining both privacy and security in the digital age? (8 marks)

(Total: 20 marks)

Question 3

In 2018, a major privacy scandal involving Facebook and Cambridge Analytica came to light. Cambridge Analytica, a political consulting firm, had illicitly harvested data from millions of Facebook users and used it to create targeted political advertisements during the 2016 U.S. presidential election. The incident raised significant ethical concerns and privacy issues.

a) Summarize the key ethical and legal issues surrounding the Facebook Cambridge Analytica scandal. In your response, examine the data protection principles that were breached during the scandal and analyze the potential effects of the scandal on human security. (12 marks)

b) Provide examples of how have social media platforms, including Facebook, adapted their data privacy practices in an effort to comply with data protection laws? (8 marks)

(Total: 20 marks)

Question 4

Scenario: You are a security analyst at a tech company. Over the weekend, an unauthorized breach of your organization's secure facility occurred. During this incident, sensitive data was stolen from the company's servers, which raised concerns about a potential data leak.

Upon investigation, it was discovered that an attacker had entered the building by posing as a janitor and followed behind a legitimate employee who was entering the secured area. The attacker then used this opportunity to attach a malicious device to an unattended workstation, granting them remote access to the company's network. Once inside, the attacker sent emails to key employees, convincing them to click on malicious links that further compromised the network.

Question:
a) Identify and describe at least two different social engineering tactics used in the scenario. Explain how each tactic contributed to the attackers' success. (6 marks)

b) Analyze the psychological tactics that social engineers used to manipulate victims, providing examples of each. (6 marks)

c) Propose two security controls or policies that the tech company should implement to prevent and detect these types of social engineering attacks in the future. Explain the rationale behind each control. (8 marks)

(Total: 20 marks)

Question 5

a) Define cyberbullying and highlight its distinctions from traditional bullying.   (6 marks)

b) Name and describe the different forms of cyberbullying.   (8 marks)

c) How can the role of technology both exacerbate and mitigate the problem of cyberbullying?

(6 marks)

(Total: 20 marks)

END OF EXAMINATION