



UNIVERSITY OF JOHANNESBURG
FACULTY OF SCIENCE

ACADEMY OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING

MODULE: IT28X80/IT8X299
INFORMATION SECURITY GOVERNANCE

CAMPUS: APK

EXAM: NOVEMBER 2019

DATE 2019-11-04

SESSION 08:30 – 10:30

INTERNAL EXAMINER

Dr J du Toit

EXTERNAL EXAMINER

Prof M Loock (UNISA)

DURATION 2 Hours

MARKS 100

Please read the following instructions carefully:

1. Write clearly and legibly.
2. Answer all questions.
3. This paper consists of 4 pages

QUESTION 1 (Risk Management)

[30]

The Utopian Hazenile Mining Company (UHMC) has a licence to mine hazenile from the many hazenile deposits found in Utopia. UHMC has a revolutionary process that enables them to mine hazenile very cheaply. The process is a trade secret, with the process entirely managed and implemented using computer systems. UHMC makes about 1Trillion Utopian Dollars (UD) annually through the hazenile mining process.

The computer system that manages the mining process is connected to their corporate network. The network is used for very important business operations, such as watching movies and listening to music. The music and movie content are primarily sourced from the Internet.

After recent news events that a competing state has also found deposits of hazenile, the CEO of UHMC has expressed her concern that the competing state may hack into UHMC's computer systems and steal the mining process.

You have been hired by UHMC to advise them on Information and Cyber Security Governance. One of your first tasks is to **write a report** to UHMC on ***Risk Management***.

Your report should include the following aspects (The marks associated with each aspect is displayed in brackets):

- Why Information Security Risk Management is seen as part of Information Security Management. (4)
- The components of risk. (3)
- The risk management approach applied to the scenario of UHMC. (18)
- Style of report. (5)

Exam Continues on Next Page

QUESTION 2 (Organising the Information Security Function)**[30]**

After further investigation you found out that UHMC have just approved a budget to buy a UD Two million (2 000 000) logical access control system. Currently the IT management role is fulfilled by the financial manager. All IT related tasks are outsourced to ad-hoc IT service providers. During an interview with the CEO the following statement was made: *“We don’t employ IT guys fulltime. I don’t see the value in spending money on IT when things rarely break. I have never considered Information Security as a function in UHMC.”*

Prepare a memo to the CEO of UHMC where you will discuss **Information Security (IS)** as a function in the **UHMC organisation**. Make sure to add recommendations on how IS should function inside UHMC and if necessary which positions or departments should be created. Clearly indicate to the CEO where in the organisation the various IS functions exist and how the reporting lines would work.

Marks are awarded as follow:

- Applying the IS organisation to the UHMC scenario. (25)
- Style of memo. (5)

QUESTION 3 (Security Education, Training and Awareness)**[20]**

The CEO of UHMC contacted you after your initial engagement with them. She made the following statement: *“We implemented a really fancy information security incident management system, but users are not reporting incidents into the system. I’m thinking of switching off the information security incident management system.”*

You suspect that the lack of compliance from the users are because of their level of security education, training and awareness (SETA). Write a **high-level proposal** to implement a SETA program for UHMC, that specifically focusses on the statement made by the CEO.

Marks are awarded as follow:

- Factual recall of Information SETA. (8)
- Application of SETA program related to the CEO statement. (8)
- Style of proposal. (4)

Exam Continues on Next Page

QUESTION 4 (Cyber security)

[20]

A few months after your last engagement with UHMC you received the following email

To: myfavouriteconsultant@isg.co.ut

From: ceo@uhmc.co.ut

Subject: *Concerns in cyber processes*

Dear consultant,

We have recently engaged with an online market provider called, AmazonBurn, that will enable us to sell our Hazenile to international markets using their e-commerce platform.

During our initial discussions with AmazonBurn, I was made aware that there is a thing called Cybersecurity. I feel out of my depth when people starts talking about cybersecurity. Can you please respond to this email and help me understand the following aspects of cybersecurity?

Please help and identify the security concepts and relationships specifically applicable to our engagement with AmazonBurn.

Write a reply to the CEO that identifies the security concepts and relationships specifically applicable to the above scenario.

Marks are awarded as follow:

- Factual recall of the various concepts. (7)
- Identifying realistic examples of the concepts and how they relate to each other. The examples must applicable to the given scenario. (9)
- Style of email: (4)

TOTAL PAPER

[100]