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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2024/2025 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE DIPLOMA IN SOFTWARE ENGINEERING

DSE 1005 LEGAL PROFESSIONAL ETHICS & IT

Date: 6TH AUGUST, 2024

Time: 11:30 AM – 1:30 PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE: COMPULSORY (30 MARKS)

Kodak, once a dominant force in the photography industry, is often cited as a classic example of a company that failed to adapt to disruptive technology. Founded in 1888, Kodak was synonymous with photography for much of the 20th century. Its innovations, including the Brownie camera and Kodachrome film, made photography accessible to the masses. However, the advent of digital technology, which Kodak itself helped pioneer, ultimately led to its decline.

Kodak revolutionized photography by introducing affordable cameras and film. The company's "You press the button, we do the rest" slogan highlighted its user-friendly approach. By the mid-20th century, Kodak had a near-monopoly in the film industry and was highly profitable. Its business model was based on selling inexpensive cameras and making significant profits from film sales and processing.

In the 1970s, Kodak engineer Steven Sasson invented the first digital camera. Despite this groundbreaking innovation, Kodak's management was reluctant to fully embrace digital technology. They feared it would cannibalize their lucrative film business. Instead of leading the digital revolution, Kodak focused on protecting its existing products.

As digital cameras became more popular in the late 1990s and early 2000s, Kodak made several attempts to enter the digital market. The company invested in digital imaging technology and launched its line of digital cameras. However, its efforts were too little, too late. Competitors like Sony, Canon, and Nikon had already established strong positions in the digital camera market.

Kodak also ventured into other digital services, such as online photo sharing and printing. However, these efforts were overshadowed by the rise of smartphone cameras and social media platforms, which fundamentally changed how people captured and shared photos.

By the late 2000s, Kodak's revenues had plummeted. The company struggled with declining film sales and failed to generate enough revenue from its digital products to offset the losses. In 2012, Kodak filed for Chapter 11 bankruptcy protection. The company restructured, focusing on

commercial printing and imaging technology. While it emerged from bankruptcy in 2013, Kodak was a shadow of its former self.

Questions:

- a) Discuss the concept of disruptive innovation and analyze how digital technology served as a disruptive innovation for Kodak. (4 Marks)
- b) Discuss four strategic missteps Kodak made in response to the emergence of digital photography? How could the company have better positioned itself to handle the disruption? (6 Marks)
- c) Evaluate the role of Kodak's leadership in its decline. How did leadership decisions impact Kodak's ability to adapt to changing technology? (5 Marks)
- d) How did Kodak's fear of cannibalizing its film business affect its innovation strategy? What can other companies learn from this about managing innovation and market cannibalization? (5 Marks)
- e) Analyze **FIVE** factors that hindered Kodak's ability to adapt to technological change. What strategies could have facilitated a smoother transition to digital? (5 Marks)
- f) After emerging from bankruptcy, Kodak shifted its focus to commercial printing and imaging technology. Critically explain the sustainability of Kodak's current business model in today's market environment. (5 Marks)

QUESTION TWO: (20 MARKS)

Janet digital media company faces criticism for its data collection practices, which involve tracking users' online behavior without transparent consent.

- a) Using **TWO** examples explain the ethical implications of such practices on user privacy. (4 Marks)
- b) Using **TWO** examples, discuss how computing professionals should navigate the tension between data-driven business models and user privacy rights. (4 Marks)
- c) Discuss **FIVE** ethical implications of tracking users' online behavior without transparent consent, and how should the social media company address these concerns to restore user trust? (5 Marks)
- d) Explain how the criticism of its data collection practices affect the social media company's brand reputation and user base? Propose strategies for effective crisis management and communication to mitigate negative impacts. (4 Marks)
- e) Evaluate **THREE** alternative data collection practices that the social media company could implement to achieve its business goals while respecting user privacy. How can these alternatives be effectively communicated to users to enhance transparency and consent? (3 Marks)

QUESTION THREE: (20 MARKS)

An autonomous vehicle manufacturer faces an ethical dilemma when programming self-driving cars to make split-second decisions in life-threatening situations.

- a) Discuss **TWO** ethical considerations of programming autonomous vehicles to prioritize passenger safety versus minimizing harm to pedestrians or other road users. (4 Marks)
- b) Discuss **TWO** ethical responsibilities of computing professionals to design ethical algorithms that align with societal values and prioritize human welfare in autonomous driving scenarios. (4 Marks)

- c) Discuss **FOUR** ethical frameworks can be applied when programming autonomous vehicles to make life-and-death decisions, and how should the manufacturer prioritize between different ethical considerations such as utilitarianism and deontology? **(4 Marks)**
- d) Discuss the legal and regulatory challenges that the autonomous vehicle manufacturer may encounter when addressing the ethical dilemmas in programming self-driving cars. How can the company ensure compliance while navigating these complex issues? **(4 Marks)**
- e) Discuss **TWO** strategies that the autonomous vehicle manufacturer should use to approach transparency and accountability in the decision-making algorithms of their vehicles? What strategies can be employed to build public trust and ensure ethical accountability? **(4 Marks)**

QUESTION FOUR: (20 MARKS)

Muita company discovers that a competitor has plagiarized code snippets from their proprietary software product.

- a) Discuss **THREE** ethical issues related to intellectual property rights in software development. **(3 Marks)**
- b) Discuss **TWO** ethical responsibilities of computing professionals to respect copyright laws, honor licensing agreements, and uphold the integrity of intellectual property. **(4 Marks)**
- c) Discuss **FOUR** legal actions that Muita Company take to protect its intellectual property rights against the competitor who plagiarized their code snippets? **(4 Marks)**
- d) Discuss **FOUR** steps involved in pursuing legal recourse and the potential outcomes. **(4 Marks)**
- e) Discuss how Muita's Company can strengthen its competitive strategy and protect its software products from future instances of plagiarism? **(3 Marks)**
- f) Propose **TWO** measures the company can implement to safeguard its intellectual property and maintain its market position. **(2 Marks)**

QUESTION FIVE: (20 MARKS)

Despite advancements in technology and widespread internet availability, many rural areas continue to face significant challenges in accessing digital resources. This digital divide affects education, economic opportunities, healthcare, and overall quality of life for residents in these areas. In a rural community, access to reliable internet services is limited, leading to disparities in digital access and opportunities compared to urban areas.

- a) Using **TWO** examples, discuss the social implications of the digital divide on education, employment, and access to essential services in the rural community. **(4 Marks)**
- b) Discuss **FIVE** strategies for bridging the digital divide and promoting digital inclusion in rural areas. **(5 Marks)**
- c) Discuss **FOUR** factors that contribute to the digital divide in rural areas, and how do these factors differ from those in urban settings? **(4 Marks)**
- d) Explain how digital divide affects educational opportunities and outcomes for students in rural areas? **(3 Marks)**
- e) Discuss specific challenges and potential strategies to mitigate these effects. **(4 Marks)**