INTERNATIONAL UNIVERSITY OF EAST AFRICA

'Learning to Succeed'

FACULTY OF SCIENCE AND TECHNOLOGY

END OF SEMESTER EXAMINATIONS - APRIL 2025

PROGRAMME: MIT
YEAR/SEM: YEAR 1/SEMESTER 1
COURSE CODE: MIT717
NAME: CYBER LAW AND IT ETHICS

DATE:
TIME:

INSTRUCTIONS TO CANDIDATES:

SECTION A

This section is compulsory - Carries 40 Marks

Question 1:

QUESTION 1 (40 MARKS)

i. Contrast between Law and Ethics **(04 Marks)**

ii. Describe at least two Common Ethical Issues for IT Users **(04 Marks)**

iii. Law is divided between Criminal and Civil Law, distinguish between these two, giving IT related examples in each case. **(04 Marks)**

iv. Among the unethical issues which can be triggered by the Internet are cyber stalking, cyber harassment, electronic fraud and child pornography. Explain what you understand by each of those terms, giving examples in each case. **(08 Marks)**

v. Discuss some of the remedies which you think need to be put in place to address the cybercrimes or unethical cyber behaviours mentioned in number v above. **(08 Marks)**

vi. Copyrights and **Patents** are established ways of protecting **Intellectual Property** Rights. Describe the purpose of each of these approaches and explain how each of them can be used to protect the **Innovators Rights** **(04 Marks)**

vii. A software company discovers that pirated versions of its software are being distributed on a popular file-sharing site. The company contacts the site's host, asking it to remove the pirated files, but the host refuses, claiming it is not responsible for user-uploaded content. Analyze the company's legal options under copyright law, including the use of takedown notices and potential lawsuits. (04 Marks)

viii. A social media platform is criticized for allowing fake news about a public health crisis to spread unchecked. The government suggests that platforms should be required to verify the accuracy of all health-related posts, but the platform argues that doing so would limit free speech.

What measures could they take to address misinformation without infringing on free speech rights? (04 Marks)

Question 2:

QUESTION TWO (40 MARKS)

i. Write short notes about the following **(08 Marks)**

a. Professionalism

b. Professional Employees

c. A professional piece

d. A professional body

ii. As the professional body matures, it is likely to develop a range of functions. Discuss at least three of these functions. **(08 Marks)**

iii. All professional bodies lay down a code of conduct/ethics that their members are required to obey. A code of conduct/ethics sets out the standards of behaviors that members of the body are expected to follow in their professional life. Write short notes on the code of conduct/ethics listed below: **(08 Marks)**

a. a. The Public interest
b. b. Duty to the relevant authority
c. c. Duty to the profession
d. Professional Competence and Integrity

iv. The Internet or Cyber Information Systems share common security threats and vulnerabilities. Distinguish between threats and vulnerabilities in relation to cybercrimes. **(04 Marks)**

v. The Internet or Cyber Information Systems Vulnerabilities can take many forms, provide at least four typical examples of these vulnerabilities, along with the ways in which they could be

exploited **(04 Marks)**

vi. Threats to the Internet or **cyber information systems** are one of four kinds: **interception, interruption, modification, and fabrication**. Explain each of these threats, giving examples in each case **(08 Marks).**

SECTION B

Attempt Any Four Questions from this section - Each question carries 15 marks

Question 1:

Question #1: Data Privacy and User Consent (15 Marks)

Your company has developed a widely used health and fitness app that tracks users' activity levels, heart rate, and sleep patterns. Recently, you discover that the app is secretly collecting users' microphone data to analyze background noise for targeted advertising. This practice is not clearly disclosed in the privacy policy, and users have not provided explicit consent. When you raise concerns, management dismisses them, arguing that it is a common industry practice and discontinuing it would hurt revenue.

i. What ethical and professional responsibilities do you have in this situation? **(05 Marks)**

ii. Justify your response using ethical principles **(05 Marks)**

iii. What potential legal risks could the company face if this practice is exposed? **(05 Marks)**

Question 2:

Question #2: Intellectual Property and Open Source

(15 Marks)

You are a data scientist working for a tech company, and you need to develop a machine learning model for a client on a strict deadline. You find a pre-trained model online that could significantly speed up your work, but you notice that its license restricts commercial use. Your supervisor insists that you use it anyway, assuring you that "no one will notice."

i. What are the ethical implications of your decision? **(05 Marks)**

ii. What are the legal implications of your decision? **(05 Marks)**

iii. How should you proceed? **(05 Marks)**

Question 3:

Question #3: Security Vulnerabilities and Responsible Disclosure

(15 Marks)

You are a cybersecurity analyst conducting a security audit for a company. During your assessment, you discover that the company's customer database is not encrypted, making it vulnerable to data breaches. When you report this to your supervisor, they dismiss your concerns, saying that encrypting the database would be too costly and time-consuming. They instruct you to finalize the audit without mentioning the issue in your report.

i. What should you do?
(05 Marks)

ii. Explain your response with reference to potential consequences.
(05 Marks)

iii. Explain your response with reference to professional responsibilities and ethical considerations. **(05 Marks)**

Question 4:

Question #4: Artificial Intelligence and Bias

(15 Marks)

Your team is developing an AI-powered loan approval system designed to assess applicants fairly. However, during testing, you discover that the system disproportionately denies loans to applicants from certain socioeconomic backgrounds, likely due to biases in the training data. When you raise your concerns, management downplays the issue, arguing that revising the model would delay the product launch.

i. What should you do in response?
(05 Marks)

ii. Discuss the ethical implications of deploying biased AI and the professional responsibilities of IT professionals in such situations.
(05 Marks)

iii. Discuss the legal implications of deploying biased AI and the professional responsibilities of IT professionals in such situations.
(05 Marks)

Question 5:

Question #5: Whistleblowing and Corporate Loyalty

(15 Marks)

While working as a cybersecurity consultant, you discover that a client is storing customer passwords in plain text, making them highly vulnerable to breaches. When you raise this issue, management dismisses your concerns, stating that upgrading their security measures would be too costly and time-consuming.

i. Should you report the company's practices to a regulatory authority,

even if it risks your job or consulting contract?

(05 Marks)

ii. Discuss the ethical considerations, including professional responsibility, whistleblowing, and potential harm to users.

(05 Marks)

i. Discuss the legal considerations, including professional responsibility, whistleblowing, and potential harm to users.

(05 Marks)

Question 6:

Question #6: Conflicts of Interest in IT Consulting

(15 Marks)

You are a freelance software developer working with two competing startups in the same industry. While developing a product for one client, you gain access to proprietary algorithms that give them a competitive edge. The other client offers you a higher-paying contract if you incorporate similar algorithms into their product.

i. How should you handle this situation?

(05 Marks)

ii. Describe the potential ethical issues involved in working with competing clients.**(05 Marks)**

iii. Describe the potential legal issues involved in working with competing clients. **(05 Marks)**

Question 7:

Question #7: Manipulating Data in Scientific Research

(15 Marks)

You are a data scientist working on a clinical trial analysis for a new drug. The initial results do not show significant improvement over existing treatments. Your supervisor suggests tweaking the statistical model to make the results appear more favorable, arguing that this will help secure approval and funding for further research.

i. What should you do?

(05 Marks)

ii. Discuss the implications of manipulating scientific data in terms of ethical and professional responsibility.

(05 Marks)

iii. Discuss the implications of manipulating scientific data in legal terms.

(05 Marks)

Question 8:

Question #8: Employee Monitoring and Privacy

(15 Marks)

Your company plans to introduce an AI-powered surveillance system that tracks employees' movements, screen activity, and conversations in the workplace to enhance security and efficiency. Many employees are unaware of the full extent of the monitoring, and management argues that it is necessary for productivity.

i. What ethical considerations should you evaluate before implementing the system?**(05 Marks)**

ii. What legal considerations should you evaluate before implementing the system?**(05 Marks)**

iii. How would you address employee privacy concerns?
(05 Marks)

Question 9:

Question #9: Contractual Obligations vs. Public Safety

(15 Marks)

Your team is developing software for a medical device that assists in diagnosing critical conditions. Due to budget constraints, management decides to cut corners on testing, significantly reducing the number of safety and accuracy checks. You worry that insufficient testing could lead to incorrect diagnoses and potential harm to patients. Your manager insists that the project must be delivered on time, regardless of the risks.

i. What are your ethical obligations?
(05 Marks)

ii. What are your legal obligations?
(05 Marks)

i. What actions should you consider taking?
(05 Marks)

Question 10:

Question #10: Social Media and Personal Boundaries in the Workplace

(15 Marks)

As a manager, you discover that an employee has been sharing confidential company information and negative opinions about clients on their personal blog. Senior management instructs you to track the employee's online activity and report any future posts that could harm the company's reputation.

i. What ethical issues arise from monitoring employees' personal online

activity? **05 Marks)**

ii. What legal issues arise from monitoring employees' personal online activity? **(05 Marks)**

iii. How would you handle this situation while respecting the employee's privacy rights? **(05 Marks)**

Question 11:

Question #11: Data Breach and Notification Laws

A healthcare provider discovers that its patient records system has been breached, exposing sensitive medical and personal information. The breach went undetected for several weeks, and the company is now determining how to respond. Given that the provider operates across multiple states with varying data privacy laws, leadership is unsure about the required disclosure steps.

i. Discuss the company's legal obligations regarding notifying affected patients. **(05 Marks)**

ii. Outline the potential legal consequences if the company fails to notify promptly. **(05 Marks)**

i. How should the company proceed to minimize legal risk? **(05 Marks)**

Question 12:

Question #12: Digital Defamation and Social Media Responsibility

(15 Marks)

A popular tech blogger publishes a review stating that a new smartphone model from a major company has a serious security flaw that puts users at risk. The company believes this claim is false and harming its sales and reputation.

i.Evaluate the legal grounds for a defamation claim and explain what evidence the company would need to present. **(05 Marks)**

ii. What defenses could the blogger raise? **(05 Marks)**

i. What challenges might the company face in pursuing a digital defamation lawsuit? **(05 Marks)**