



**ACCRA INSTITUTE OF TECHNOLOGY**

**The University of the Future**

**MID TRIMESTER EXAMINATIONS**

**MAY 2022 TRIMESTER**

**DATE: AUGUST 2022**

**COURSE CODE: IT454**

**COURSE TITLE: COMPUTER FORENSICS**

**LECTURER'S NAME: EMMANUEL ADOTEY PAPPOE**

<b>COURSE OUTLINE ( MAIN TOPICS )</b>		<b>QUESTION NO.</b>
<b>Major Topic- 1</b>	Introduction to computer Forensics	Q1 D Q2 A Q4 C Q5 A Q5 C Q5 D
<b>Major Topic- 2</b>	Investigative Process Methodology	Q1 A Q1 B Q4 B Q5 B
<b>Major Topic- 3</b>	Data Acquisition	Q2 B Q2 D Q3 B
<b>Major Topic- 4</b>	Processing Crime and Incident Scenes	Q1 C Q4 D
<b>Major Topic- 5</b>	Ethics and Professional Conduct	Q2 C Q3 A Q3 C Q3 D Q4 A

## PART A

### THREE QUESTIONS ANSWER TWO

#### Question 1

- a) The goal of computer forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device and who was responsible for it. Explain with examples the digital forensics process model

<b>Major Topic2: Investigative Process</b>	<b>Hours</b>	<b>Score</b>
<b>Methodology</b>	<b>Designation</b> AP	<b>7</b>

- b) You've just been awarded a certificate in computer forensics from the Accra Institute of Technology. You had a call from the registrar to lead an investigative team to ascertain how and when a suspected digital breach occurred. As the team lead, explain to the team the set of standard procedures forensic investigators typically follow

<b>Major Topic2: Investigative Process</b>	<b>Hours</b>	<b>Score</b>
<b>Methodology</b>	<b>Designation</b> AN	<b>7</b>

- c) Discuss contingency planning for image acquisition

<b>Major Topic4: Processing Crime and</b>	<b>Hours</b>	<b>Score</b>
<b>Incident Scenes</b>	<b>Designation</b> AP	<b>6</b>

d Explain the chain of custody stating its importance in computer

<b>Major Topic1: Introduction to Computer</b>	<b>H o o n s</b>	<b>Score</b>
<b>Forensics</b>	<b>Designation</b> AN	<b>5</b>

forensics

**TOTAL SCORE: 25**

## Question 2

a) Explain in your own words, **forensic soundness** and briefly discuss the four (4) principles that must be followed to achieve soundness specific to digital evidence.

<b>Major Topic1: Introduction to Computer</b>	<b>H o o n s</b>	<b>Score</b>
<b>Forensics</b>	<b>Designation</b> AP	<b>7</b>

b) Chain of custody protects the integrity and reliability of the evidence Explain the guidelines that are required in the chain of custody process.

<b>Major Topic3: Data Acquisition</b>	<b>H o o n s</b>	<b>Score</b>
	<b>Designation</b> AN	<b>7</b>

c) It is the responsibility of every digital forensic practitioner to do everything in their power to be objective, honest, truthful, and

demonstrate due diligence when conducting an investigation. Discuss the importance of ethics in computer forensics.

<b>Major Topic5: Ethics and Professional Conduct</b>	<b>Hours Designation</b> AP	<b>Score</b> <b>6</b>
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d) Collecting evidence from a large drive requires a lot of time. Briefly explain the two methods, that are used in determining the best data acquisition

<b>Major Topic3: Data Acquisition</b>	<b>Hours Designation</b> AN	<b>Score</b> <b>5</b>
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**TOTAL SCORE: 25**

### Question 3

a) When professionals fail to uphold a minimum level of ethical standards, the resulting impact can lead to potential digital evidence being overlooked or disregarded during an investigation. Explain to your client the difference between personal ethics, professional ethics and computer ethics stating why these principles must be followed during an investigation.

<b>Major Topic5: Ethics and Professional Conduct</b>	<b>Hours Designation</b> AN	<b>Score</b> <b>7</b>
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b) Collected data by a computer forensics acquisition tool as an image file. understanding the storage formats of digital evidence is so important to the investigator. Explain the three formats of digital evidence.

<b>Major Topic3: Data Acquisition</b>	<b>H o o n s Desi gnati on AN</b>	<b>Score 7</b>
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c) Within the International Society of Forensic Computer Examiners (ISFCE) Code of Ethics, a Certified Computer Examiner (CCE) will, at all times follow some basic principles in carrying out their duties. Discuss five (5) of these principles

<b>Major Topic5: Ethics and Professional Conduct</b>	<b>H o o n s Desi gnati on AP</b>	<b>Score 6</b>
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d) Organizations need to conduct themselves ethically because they have to exist in a competitive global landscape and demonstrating these values brings credibility. Elaborate on the three importance of ethics to an Organization.

<b>Major Topic5: Ethics and Professional Conduct</b>	<b>H o o n s Desi gnati on AP</b>	<b>Score 5</b>
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**TOTAL SCORE: 25**

## PART B

### TWO QUESTIONS ANSWER ALL

#### Question 4

- a) Ethical values and principles are a useful way of sorting out what is considered good and bad behavior and conduct. Discuss with at least one (1) example the fundamental values and principles of ethical behavior and conduct that are required by digital forensic practitioners.

<b>Major Topic5: Ethics and Professional Conduct</b>	<b>Books Designation CR</b>	<b>Score 7</b>
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- b) When a crime scene perimeter is defined. An investigator must record details about the crime scene. Explain the three critical questions that need to be answered by the investigator to be able to gather all the relevant data that will be required

<b>Major Topic2: Investigative Process Methodology</b>	<b>Books Designation EV</b>	<b>Score 7</b>
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- c) Discuss evidence exchange, stating clearly the goals and importance of evidence exchange with regards to computer forensics

<b>Major Topic1: Introduction to Computer Forensics</b>	<b>Books Designation CR</b>	<b>Score 6</b>
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d) All investigations must follow some rules of evidence, briefly explain them

<b>Major Topic4: Processing Crime and Incident Scenes</b>	<b>Books Designation</b> EV	<b>Score</b> 5
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**TOTAL SCORE: 25**

### Question 5

a) The International Organization on Computer Evidence (IOCE) was created to provide international law enforcement agencies a forum to collaborate and exchange information about computer crime investigations and other forensics issues involving technology. Explain the standardized international principles for the recovery of digital evidence.

<b>Major Topic1: Introduction to Computer Forensics</b>	<b>Books Designation</b> CR	<b>Score</b> 7
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b) After a crime scene perimeter has been defined, practitioners must record details about the crime scene. Critically examine the best practices when shooting video or taking photographs to document a crime scene.

<b>Major Topic2: Investigative Process</b>	<b>Books Designation</b>	<b>Score</b>
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<b>Methodology</b>	<b>EV</b>	<b>7</b>
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- c) The goal for maintaining the authenticity of digital evidence is to demonstrate that it is the same data as what was originally seized. From the legal perspective, explain authentication by stating at least the three (3) main qualities in computer forensics.

<b>Major Topic1: Introduction to Computer Forensics</b>	<b>Exams Designation EV</b>	<b>Score 6</b>
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- d) Explain digital forensics

<b>Major Topic1: Introduction to Computer Forensics</b>	<b>Exams Designation CR</b>	<b>Score 5</b>
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**TOTAL SCORE: 25**