Digital Forensics 1

(SPY 2005)

Assignment 1

Shaqra University

Submitted By-

Your Name
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Submitted To-

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Instructions:

● *The assignment must be handwritten.*

● *Use A4 papers to write the assignment.*

● *Draw diagrams wherever relevant. Explain your notations explicitly and clearly.*

● *An incomplete assignment is NOT acceptable for submission.*

● *Arrange all the papers of your assignment into a file to submit.*

● *Once you submit your assignment, you will be expected to answer all the questions there INDEPENDENTLY. You may be asked to answer any question of the assignment in the class.*

Q1. Discuss the role of digital forensics in modern cybersecurity practices. Explain how digital forensics contributes to the detection, investigation, and prevention of cybercrimes with relevant real-world examples.

Q2. Explain the basic components of computer and network architecture. How does understanding these fundamentals support effective digital forensic investigations? Provide detailed diagrams where necessary.

Q3. Describe the standard procedures for collecting and preserving digital evidence. Why is maintaining the integrity and chain of custody of digital evidence critical in forensic investigations? Illustrate your answer with practical scenarios.

Q4. Outline the steps involved in static and dynamic analysis of malware. What tools and techniques are commonly used in reverse engineering, and how do they aid forensic investigators in understanding malware behavior?

Q5. What are anti-forensics techniques, and how do cybercriminals use them to evade detection? Analyze various anti-forensics methods and discuss the challenges they pose to digital forensic investigations.