

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGIES**

**SUMMER 2024**

**FINAL EXAMINATION**

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| **COURSE TITLE:** | CYBERSECURITY |
| **COURSE CODE:** | ISN 3203 |
| **INSTRUCTOR:** | Engr Nguessie Fabiola |
| **DATE:** |  |
| **DURATION:** | 2 hours 30 minutes |

**INSTRUCTIONS:**

* **The paper is made out of two sections: A and B.**
* **Section A is compulsory.**
* **Attempt any two questions in Section B.**
* **Credit is given for legibility, clarity of expressions and use of relevant illustrations.**
* **Clearly write your registration number on each answer sheet used**

**SECTION A: COMPULSORY QUESTIONS / 40 Marks**

**Question 1 / 10 Marks**

*Explain the concept of a firewall and its importance in network security. Discuss different types of firewalls and their respective advantages and disadvantages.*

**Question 2 / 10 Marks**

*Describe the various types of cyber threats that organizations face today. Provide examples and suggest measures to mitigate these threats.*

**Question 3 / 10 Marks**

*What is encryption, and why is it crucial for cybersecurity? Compare symmetric and asymmetric encryption, providing examples of algorithms used in each.*

**Question 4 / 10 Marks**

*Discuss the role of intrusion detection systems (IDS) in cybersecurity. Differentiate between network-based and host-based IDS, and provide examples of each.*

**SECTION B: ATTEMPT ANY TWO QUESTIONS / 30 Marks**

**Question 5 / 10 Marks**

*Evaluate the impact of social engineering attacks on organizations. Describe common social engineering techniques and suggest strategies to prevent such attacks.*

**Question 6 / 10 Marks**

*Analyze the concept of multi-factor authentication (MFA). Explain how MFA enhances security and provide examples of different types of authentication factors.*

**Question 7 / 10 Marks**

*Discuss the significance of cybersecurity policies and procedures in an organization. Outline the key components that should be included in a comprehensive cybersecurity policy.*

**Question 8 / 10 Marks**

*Examine the role of ethical hacking in cybersecurity. Discuss the various phases of ethical hacking and the tools commonly used by ethical hackers.*

**ALL THE BEST 😊**