MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2021/2022 ACADEMIC YEAR

THIRD YEAR **FIRST** SEMESTER EXAMINATION FOR, DIPLOMA IN INFORMATION AND TECHNOLOGY

SCS 058: COMPUTER SYSTEM SECURITY

DURATION: 2 HOURS

Instructions to candidates:

1. Answer question One and Any Other Two questions.

2. Mobile phones are not allowed in the examination room.

3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

a) Define the following terms. (6 marks)
   (i)   Mobile agent
   (ii)   Logical access
   (iii)   Malware
   (iv)   Hashing
   (v)   Firewall
   (vi)   Cryptosystem

b) Discuss three (3) ways of preventing buffer overflows. (6 marks)

c) Discuss three (3) types of malwares. (6 marks)

d) Discuss three (3) applications of logical access controls. (6 marks)

e) Discuss three (3) advantages of using a firewall. (6 marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

2. a) Describe what happens in the computer memory when a program is ran. (10 marks)

b) Describe five (5) types of access control models used in computer system security. (10 marks)

QUESTION THREE (20 MARKS)

3. a) Discuss two (2) types of Intrusion Deduction Systems used in Computer Systems Security.
(6 marks)

b) Explain how to configure an SSH key. (8 marks)

c) Discuss the guidelines of designing security policy. (6 marks)

QUESTION FOUR (20 MARKS)

4. a) Discuss five (5) types of security policies that can be implemented in the IT department.
(10 marks)

b) Discuss five (5) challenges that an organization is likely to face when implementing security control policies. (10 marks)