(The University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY REGULAR EXAMINATIONS

2023/2024 ACADEMIC YEAR

FOURTH YEAR 2ND SEMESTER EXAMINATIONS

BACHELOR OF SCIENCE IN

COMPUTER SCIENCE

COURSE CODE: **BCS 477**
COURSE TITLE: **NETWORK SECURITY**

DATE: FRIDAY 12TH APRIL, 2024 **TIME:** 3:00pm – 5:00 pm

INSTRUCTIONS TO CANDIDATES

Answer Question **ONE (1)** and Any **OTHER 2** questions
Ensure your answers/ideas are clearly expressed
All your answers must be clearly numbered
Write in ink. Rough work can be done (in answer booklet) in pencil and will not be marked. Cross out any rough work.
Calculators, phones, tablets, computers not allowed

. TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

QUESTION ONE **COMPULSORY** **30 MARKS**

a) Explain the four weak points of TCP/IP [4 Marks]
b) What is a brute force attack and how can you mitigate it? [3 Marks]
c) Briefly discuss the concept of digital certificate and its contents [5 Marks]
d) State and explain the functions of a router [6 Marks]
e) Distinguish between a risk and a vulnerability [4 Marks]
f) Describe the kind of attacks Network layer is susceptible to [2 Marks]
g) What tactics can one use to secure Web based applications [4 Marks]
h) Explain your understanding of Information and Network Security [2 Marks]

QUESTION TWO **20 MARKS**

a) Discuss any 5 functions of a Public Key Infrastructure [10 Marks]
b) State and explain the types of malware [8 Marks]
c) What is insider privilege misuse [2 Marks]

QUESTION THREE **20 MARKS**

a) Discuss the cyber breach incident response plan [10 Marks]
b) Identify and explain briefly ways you can protect your laptop [8 Marks]
c) Describe how you can apply a technical corrective security control [2 Marks]

QUESTION FOUR **20 MARKS**

a) List and explain security vulnerabilities in Open Web Application Security Project (OWASP) [10 Marks]
b) What is the variance between cryptanalysis and cryptology [3 Marks]
c) Explicate between symmetric and asymmetric encryption. [3 Marks]
d) Which is a superior security measure between HTTPS and SSL [4 Marks]

QUESTION FIVE **20 MARKS**

a) What measures can you put in place to curb against SSRF [3 Marks]
b) State and explain the Network security functionalities [12 Marks]
c) What key skills are needed in the industry for a cybersecurity expert [5 Marks]