



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**UNIVERSITY EXAMINATIONS
MAIN CAMPUS**

**2021/2022 ACADEMIC YEAR
FOURTH YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

COURSE CODE: BCS 477

COURSE TITLE: NETWORK SECURITY

DATE: Wednesday 27/04/2022 TIME: 8:00a.m-10:00a.m

INSTRUCTIONS TO CANDIDATES

Answer questions ONE and any other TWO questions.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over. ▲

QUESTION ONE (30 MARKS) COMPULSORY

- a) Explain the four types of session hijacking [4 Mks]
- b) What is a brutal force attack and how can you mitigate it? [3 Mks]
- c) Briefly discuss the concept of digital certificate and its contents [5 Mks]
- d) State and explain three tenet of Network security [6 Mks]
- e) Distinguish between a risk and a vulnerability [4 Mks]
- f) Describe the kind of attacks Transport layer is susceptible to [2 Mks]
- g) What are the strategies one can use to secure Web based applications [4 Mks]
- h) Explain the difference between DoS and DDoS [2 Mks]

QUESTION TWO (20 MARKS)

- a) Discuss any 5 functions of a Public Key Infrastructure [10 Mks]
- b) Briefly elaborate on the types of block cipher modes [8 Mks]
- c) What is your understanding of network security [2 Mks]

QUESTION THREE (20 MARKS)

- a) Discuss the objectives of information security within an organization [12 Mks]
- b) Identify and explain briefly any two Time-frame analysis methods [8 Mks]
- c) Describe how one can provide a first line of defence against DNS attack [3 Mks]

QUESTION FOUR (20 MARKS)

- a) List and explain security vulnerabilities in Open Web Application Security Project (OWASP) [10 Mks]
- b) What is the variance between cryptanalysis and cryptography [2 Mks]
- c) Explicate between symmetric and asymmetric encryption. [2 Mks]
- d) Which is a superior security measure between HTTPS and SSL [4 Mks]

QUESTION FIVE (20 MARKS)

- a) What measures can you put in place to curb against CSRF [3 Mks]
- b) State and explain the Network security functionalities [12 Mks]
- c) Discuss briefly firewall alarms of false positive and negative; of the two which one is the worst [5 Mks]