



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2022

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

REGULAR PROGRAMME

CMT 438: ETHICAL HACKING

Date: APRIL 2022

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any TWO Questions

Q1.

- a) Define the following terms as used in Ethical Hacking **(5 Marks)**
- Hacking
 - Ethical Hacking
 - Ping Sweep
 - Inverse TCP Flag Scanning
 - Footprinting
- b) What is the overall purpose of the footprinting and reconnaissance and list the major objectives of this phase **(5 Marks)**
- c) List any three skills that a good ethical hacker should possess **(3 Marks)**
- d) List and Explain the Vulnerability Score system as applicable in Ethical Hacking **(4 Marks)**

- e) System hacking is much more difficult and complex, therefore classified into in hacking methodology. List ant four methodologies **(2Marks)**
- f) Define Wiretapping and explain its types as applicable in Ethical hacking **(6 Marks)**
- g) Explain what is Denial of Service (DOS) attack? What are the common forms of DOS attack **(5 marks)**

Q2. In TCP communication, there are two types of Internet Protocol traffic that is TCP and UDP. In TCP has TCP header that contains Flag as one of its components. These Flags are filed in the TCP header with 9 bits and has 6 TCP flags. List and explain their use. **(15 marks)**

Q3. You have been invited for an interview for an opening of an Ethical hacker. The panelist has asked you to discuss the various ways by which Malware may propagate a computer system. Please discuss **(15 Marks)**

Q4.

- a) Define the term social engineering as used in Ethical hacking **(1 Mark)**
- b) List ways of Human-based Social Engineering **(5 Marks)**
- c) List the common symptoms of DoS attacks **(5 Marks)**
- d) Discuss Session Hijacking Techniques **(4 Marks)**

Q5.

- a) Define Cryptography and ciphers **(2 Marks)**
- b) List and explain the types of cryptography **(4 Marks)**
- c) List any five application threats that an ethical hacker may have to deal with in the course of duty **(5 Marks)**
- d) Define the meaning of a web server and discuss some of the web server attacks **(4 Marks)**

END