THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

GABA CAMPUS - ELDORET

MAIN EXAMINATION

SEPTEMBER – DECEMBER 2021 TRIMESTER

FACULTY OF SCIENCE

BACHELOR OF SCIENCE

DEPARTMENT OF COMPUTER AND INFORMATION SCIENCE

CMT 447: WEB APPLICATION SECURITY

Date: December 2021	**Duration:** 2 Hours
Instructions: Answer Question **ONE** and any other **TWO** Questions	

QUESTION ONE

a) Explain the following internet security threats

      i) Viruses

      ii) Worms

      iii)Phishing

      iv)Rootkit

      v) Spoofing

      vi)Eavesdropping

                                 (12 marks)

b) Critically explain any Internet security principle that can be used to provide security to internet applications?   **(6 marks)**

c) What is cryptography? Using an example explain how cryptography is used as a security tools in the internet?   **(8 marks)**

d) Explain How hashing is done?   **(4 marks)**

QUESTION TWO

a) Explain the flaws that may affect programs security on the Internet?

                                   (10 marks)

b) What is malicious code? Describe any 4 types of malicious code?

                                   (10 marks)

QUESTION THREE

a)   Describe the virus signatures and patterns?   **(8 marks)**

b)   Explain any 6 virus effects and how they are caused?   **(12 marks)**

QUESTION FOUR

An institution would like to employ you as a internet security expert, advise them on how to prevent virus attacks on their system?   **(8 marks)**

Explain to the Institution how they will protect the following:

      i)   Application Security

      ii) Operating systems security

      iii) Memory security

      iv) User authentication

      v) Digital signatures

      vi) Website and e-mails

QUESTION FIVE

i)   What is a firewall? Explain the 5 types of firewalls?   **(12 marks)**

ii) What are IDS's ?   **(2 marks)**

iii) Explain how to administer Web application security?   **(6 marks)**

END