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EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF CRIMINOLOGY AND SECURITY STUDIES

CRSS 434: COMPUTER SECURITY

STREAMS:

TIME: 2 HOURS

DAY/DATE : WEDNESDAY 22 /09/ 2021   **2.30 PM – 4.30 PM**

INSTRUCTIONS TO CANDIDATES:
- Answer Question One (Compulsory) and any other Two Questions.

QUESTION ONE: 30 MARKS

a)   What is data privacy?   [2 Marks]

b)   Explain the four main security properties of a computing system.   [4 Marks]

c)   Differentiate between a threat and an attack   [2 Marks]

d)   Discuss four layers of computer security in detail by citing relevant examples in each case.   [4 Marks]

e)   Describe the following terms:

i.)   Identity theft   [2 Marks]

ii)   Packet sniffing   [2 Marks]

iii)   Phishing   [2 Marks]

iv)   Non repudiation   [2 Marks]

f)   Write three practical goals of an Intrusion Detection System   [3 Marks]

g)   What is your understanding of an *exploitable* vulnerability?   [3 Marks]

h)   How would you secure Kenya from cyber-attacks which could result in lowering our standard living (such as power outages, telephone outages, etc) or maybe even result in the loss of life?   [4 Marks]

QUESTION TWO : 20 MARKS

a)   Explain what is meant by computer security policy? Discuss four different types of computer security policy in details.   [8 Marks]

b)   Discuss the two types of intrusion detection systems? Differentiate between them by writing their characteristics.   [8 Marks]

c)   What is cyberspace crime? Give examples.   [4 Marks]

QUESTION THREE: 20 MARKS

a)   Discuss the following terms in details

i)   Cloud forensics   [2 Marks]

ii)   Network forensics   [2 Marks]

iii)   Database forensics   [2 Marks]

b)   Explain measures and methods that are employed to counter cyberspace crimes across the globe.   [4 Marks]

c)   Why is Digital Crime Scene Preservation and Documentation phase very important in achieving successful digital crime investigation.   [4 Marks]

d)   China is believed to be one of the perpetrators of cyber espionage. Explain how it is using it to its advantage by citing relevant practical examples.   [6 Marks]

QUESTION FOUR: 20 MARKS

a)   Why do you think many cybercrime suspects go scot-free mostly in the developing countries especially Kenya and Uganda? What should be done in our opinion to enable them face justice and be charged for the offences? [8 Marks]

b)   Describe the differences between cyber warfare and cyber terrorism. [4 Marks]

c)   Explain why acquisition or imaging of exhibits very crucial in computer crime investigation process.   [6 Marks]

d)   In access control systems, what is a capability?   [2 Marks]

QUESTION FIVE: 20 MARKS

a)   List the basic computer security checklist   [6 Marks]

b)   Describe some of the most common cyber-crimes in the world.   [8 Marks]

c)   In a high security setup it's advisable to deploy multifactor authentication (MFA), explain why?   [4 Marks]

d)   Define the term firewall. Explain its purpose.   [2 Marks]

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