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DEPARTMENT OF SOFTWARE ENGINEERING

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE (HONS SOFTWARE DEVELOPMENT)	
QUALIFICATION CODE: 08BCHS	LEVEL: 8
COURSE: SECURE SYSTEMS	COURSE CODE: SSS811S
DATE: JUNE 2023	SESSION: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER (S)	MR ARPIT JAIN
MODERATOR:	MR NDANGI NASHIKU

THE QUESTION PAPER CONSISTS OF 2 PAGES
(Including this front page)

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. In answering questions, be guided by the allocated marks.
4. Number your answers clearly following the numbering used in this question paper.

PERMISSIBLE MATERIALS

1. None

Question 1 [20]

Provide two examples of defence techniques you can implement at each of the following stages of a Cyber Kill Chain. [2 Marks for listing, 4 Marks for an explanation of defence technique]

- (a) Reconnaissance: The attacker uses a search engine to find the email addresses of employees at a target organization. [4]
- (b) Entry: Attacker sends phishing emails to employees that lead to compromised account credentials. The attacker then signs into the organization's virtual private network (VPN) service using those credentials. [4]
- (c) Lateral Movement: Attacker remotely logs in to other systems using the compromised credentials. [4]
- (d) Persistence: Attacker installs a backdoor on the newly compromised systems that provide them with remote access. [4]
- (e) Attacker Goals: Attacker steals documents from the network and uses the remote access backdoor to exfiltrate them. [4]

Question 2 [20]

- (a) Explain confidentiality, integrity, and availability in perspective of reliability and security. [10]
- (b) Explain the design for insider risk? [10]

Question 3 [20]

- (a) Explain Threat Intelligence and its advantages. [10]
- (b) Multi Factor Authorization and Multi Party Authorization (5 marks each) [10]

Question 4 [20]

- (a) Explain the design principle for Recovery [10]
- (b) What is the motivation for the attackers? [10]

Question 5 [20]

- (a) What is Trojan Horse? Explain the stages of Trojan Horse. [10]
- (b) What do you mean by controlling the blast radius? [10]

