



FACULTY/COLLEGE	College of Business and Economics
SCHOOL	School of Consumer Intelligence and Information Systems
DEPARTMENT	Applied Information Systems
CAMPUS(ES)	APB
MODULE NAME	Communication Networks 3B
MODULE CODE	CMN03B1
SEMESTER	Second
ASSESSMENT OPPORTUNITY, MONTH AND YEAR	Final Summative Assessment Opportunity November 2019

ASSESSMENT DATE	09 November 2019	SESSION	08:30 – 11:30
ASSESSOR(S)	Mr ST Mhlongo		
MODERATOR(S)	Mr LS Nxumalo		
DURATION	2 hours (120 min)	TOTAL MARKS	80

NUMBER OF PAGES OF QUESTION PAPER (Including cover page)	5
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INFORMATION / INSTRUCTIONS:

- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.
- This examination paper contains **10 questions** across **3 sections**.
- Read through the examination paper to make sure that you understand the requirements.
- Write legibly.
- Question papers **MUST** be handed in at the end of the examination session.
- Answer **ALL** questions on the given answer book.
- You may answer the questions in any order; please ensure that each part of your answer clearly indicates the question that it answers.
- This is **NOT** an open book examination.
- You may **NOT** write in pencil or in red ink.
- Ensure that your **full name**, **student number** and any other administrative details appear legibly on your answer book.

SECTION A – MULTIPLE-CHOICE**[Section Total: 10]****IMPORTANT:**

Answer this Section A of the examination at the FRONT of your answer book and NOT on the multiple-choice section at the end of your answer book.

Question 1**[10]**

- 1.1** Each of the following is a successive layer in which information security is achieved **EXCEPT** _____.
- A people
 - B products
 - C purposes
 - D procedures
- 1.2** What term refers to an action that provides an immediate solution to a problem by cutting through the complexity that surrounds it?
- A Unicorn
 - B Silver bullet
 - C Secure solution
 - D Approved solution
- 1.3** What social engineering principal convinces a victim an immediate action is needed?
- A Intimidation
 - B Authority
 - C Urgency
 - D Scarcity
- 1.4** In which type of encryption is the same key used to encrypt and decrypt data?
- A Public
 - B Private
 - C Symmetric
 - D Asymmetric
- 1.5** Which type of attack below is similar to a passive man-in-the-middle attack?
- A Denial
 - B Replay
 - C Hijacking
 - D Buffer overflow

- 1.6** What kind of networking device forwards packets across different computer networks by reading destination addresses?
- A Switch
 - B Bridge
 - C Router
 - D Firewall
- 1.7** Slave devices that are connected to a piconet and are sending transmissions are known as what?
- A Passive slaves
 - B Neutral slaves
 - C Parked slaves
 - D Active slave
- 1.8** What type of filtering software divides email messages that have been received into two piles, spam and non-spam and then analyses every word in each email and determines how frequently a word occurs in the spam pile compared to the not-spam pile?
- A Blacklist filtering
 - B Whitelist filtering
 - C Bayesian filtering
 - D Extension filtering
- 1.9** What type of management system below can help distribute and manage public and corporate applications?
- A Extended Device Management
 - B Wireless Device Management
 - C Mobile Device Management
 - D Total Device Management
- 1.10** What is a characteristic of the Trusted Platform Module (TPM)?
- A It provides cryptographic services in hardware instead of software.
 - B It is available only on Windows computers running BitLocker.
 - C It allows the user to boot a corrupted disk and repair it.
 - D It includes a pseudorandom number generator.

SECTION B – DEFINITIONS AND SHORT ANSWERS**[Section Total: 20]**

Question 2**[5]**

What is a network switch and how does it work?

Question 3**[12]**

Distinguish between each of the following terms:

- 3.1 Substitution cipher and XOR cipher. (2)
- 3.2 Spam and a hoax. (2)
- 3.3 Vendor diversity and control diversity. (2)
- 3.4 Transferring risk and mitigating risk. (2)
- 3.5 MITB and MITM. (2)
- 3.6 A network hard edge and a network blurred edge. (2)

Question 4**[3]**

Are **cryptography** and **steganography** the same thing? **EXPLAIN** your answer.

SECTION C – DISCUSSION**[Section Total: 50]**

Question 5 [8]

Home users face several risks from attacks on their insecure wireless networks. **NAME** and **BRIEFLY DESCRIBE** some actions that a threat actor can perform on a home wireless network.

Question 6 [6]

Consider the two (2) terms: **active-passive** and **active-active**.

6.1 What network device can be configured in either an active-passive or active-active configuration? (2)

6.2 Explain what is meant by both active-passive and active-active. (4)

Question 7 [8]

Fully discuss the characteristics that are needed to consider a hashing algorithm secure.

Question 8 [15]

PRESENT and **DISCUSS** the five (5) fundamental security principles. Limit your discussion to no more than a page.

Question 9 [10]

One of the things that should be considered when setting up a mobile device for use is using strong authentication. **DISCUSS** the two (2) separate configurations that are involved in this.

Question 10 [3]

BRIEFLY DISCUSS how a reverse proxy works.
