UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
(ONLINE)
SEMESTER I
SESSION 2020/2021

COURSE NAME	:	FUNDAMENTAL OF INFORMATION SECURITY
COURSE CODE	:	BIS 10103
PROGRAMME	:	BIS
EXAMINATION DATE	:	JANUARY / FEBRUARY 2021
DURATION	:	3 HOURS
INSTRUCTION	:	1. ANSWER **ALL** QUESTIONS
		2. STUDENTS SHOULD UPLOAD ANSWER BOOKLET (PDF FORMAT) WITHIN 30 MINUTES AFTER EXAMINATION PERIOD

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

TERBUKA

Q1   Answer **Q1(a)** to **Q1(c)** based on the case study in Figure **Q1**.

> Numerous collaborative applications enable users to read and write
> different data elements using a set of permissions. In a document
> editing application, for example, users may want to enable some users
> to read and write their documents while blocking unwanted access.

FIGURE Q1

(a) Suggest **ONE (1)** type of access control for Figure **Q1**.

(4 marks)

(b) Describe **THREE (3)** advantages of access control for **Q1(a)**.

(6 marks)

(c) Name **THREE (3)** applications that implement access control in **Q1(a)**.

(6 marks)

Q2   (a) Fill in Table **Q2** using Caesar cipher shift 4 left.

TABLE Q2

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

(6 marks)

(b) Decode message WECERKM QEPECWMEOY using Caesar cipher table at **Q2 (a)**.

(6 marks)

Q3   Answer **Q3(a)** to **Q3(b)** based on case study in Figure **Q3**.

> Internet of Things (IoT) is a new field for current technical, computing,
> and scientific world. This fast-growing technology has always taken an
> emergent step. IoT can be applied in any field of life. By 2020, it is
> estimated that 25% of all cyber-attacks target IoT devices. With the
> rapid adoption of IoT technologies in the industry, there will be an
> endless rise in these attacks.

FIGURE Q3

(a) Describe **THREE (3)** types of malware attack.

(9 marks)

(b) Suggest **TWO (2)** ways to protect IoT based on your answer in **Q3(a)**.

(6 marks)

Q4   Illustrate the steganography process using suitable diagram.

(10 marks)

Q5   Write **TWO (2)** security mechanisms to provide Confidentiality, Accountability and Privacy based on Figure **Q5**

> Electronic payment methods, or e-Payments, are frequently used by the private sector for eCommerce transactions for buying and selling goods or services offered through the Internet.

FIGURE Q5.

(12 marks)

Q6   Based on case study in Figure **Q6**, answer the following questions.

> Thousands of unsecured internet-facing databases have been on the receiving end of automated 'Meow' attacks that involve destroying the data without leaving as much as an explanatory note.

FIGURE Q6

(a) Explain how this attack works.

(6 marks)

(b) Discuss **THREE (3)** ways how to avoid this attack.

(9 marks)

-END OF QUESTIONS-

CONFIDENTIAL