



**UNIVERSITI TUN HUSSEIN ONN
MALAYSIA**

**FINAL EXAMINATION
(ONLINE) *(take home)*
SEMESTER I
SESSION 2020/2021**

COURSE NAME : WEB SECURITY
COURSE CODE : BIS 20303
PROGRAMME CODE : BIS
EXAMINATION DATE : JANUARY / FEBRUARY 2021
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION :
1. ANSWER ALL QUESTIONS
2. PLEASE MAKE SURE TO
CLICK "SAVE ANSWER"
BUTTON FOR SUBJECTIVE
QUESTIONS OBJECTIVE
QUESTIONS ARE SAVED
AUTOMATICALLY.

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THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

SECTION A

- Q1** (a) Propose **THREE (3)** firewall policies for UTHM (6 marks)
- (b) Propose **TWO (2)** Bring Your Own Device (BYOD) policies for UTHM (4 marks)
- (c) Your organization have enough budget for implementing Business Continuity Plan (BCP).
Choose appropriate Redundant Array of Independent Disks (RAID) level for your organization. (1 mark)
- (d) Justify your answer in **Q1(c)**. (4 marks)
- (e) Your company decides to run FULL BACKUP everyday for all the systems and data in your company.
Justify whether you agree with this decision? (3 marks)
- (f) A firewall can do content filtering or Deep Packet Inspection (DPI) to maintain network security.
List **THREE (3)** things that a firewall does to maintain network security. (3 marks)
- (g) Discuss **TWO (2)** advantages of a firewall running DPI. (4 marks)
- (h) Show how Secure/Multipurpose Internet Mail Extensions (S/MIME) works using an appropriate diagram. (4 marks)

- (i) Explain how S/MIME works using Table Q1.

TABLE Q1

STEPS	SENDER	RECEIVER
1		
2		
etc		

(6 marks)

Q2 Use appropriate Linux commands to give access rights to file `secret.txt` based on scenarios given below.

- (a) Allow read and write access for the file, to users only. (2 marks)

- (b) Allow all rights for the file, to group only. (2 marks)

- (c) Give all rights for the file to everybody. (2 marks)

Q3 Write Windows command for these scenarios.

- (a) Check if port 80 is opened for `http://www.uthm.edu.my`. (2 marks)

- (b) Check if any ports between http to https are opened for server `102.100.100.100`. (2 marks)

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Q4 Based on the scenario, answer the following questions:

You are hired to do a penetration testing (pentest) on a server. One of the task that you want to do is to test to plant a simple back door in the server, assuming that you have successfully gain access to the server. Given, the IP address of the server is 100.10.10.1 and the IP address of one of the client is 100.10.10.10. In this pentest session, you also noticed that the firewall is misconfigured, where filtering is not done at all.

- (a) Choose either to use Bind Shell or Reverse Shell. (1 mark)
- (b) Explain your answer in Q4(a). (2 marks)
- (c) Write a Linux command that you are going to use at the server for implementing a simple back door. (5 marks)
- (d) Explain the Linux commands used in Q4(c). (6 marks)
- (e) Write a Linux command at the client side. (3 marks)
- (f) Explain the Linux commands used in Q4(e). (6 marks)
- (g) Write a command to delete all files in the server's directory from the client side. (2 marks)

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Q5 A hash table of length 11 uses open addressing with hash function and linear probing.

(a) Propose a hash function formula to be used.

(2 marks)

(b) Assume that these values are inserted in into the hash table in this order:

36, 45, 27, 66, 85, 78, 44, 55, 66, 104.

Illustrate the output in a hash table form. Show your work.

(8 marks)

- END OF QUESTIONS -

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