

	SUBJECT: Data & Network Security		CODE: BCN2023	MARK: <div>/100</div>
	TOPIC: Chapter 1 - 6			
	ASSESSMENT: Project	NO: 1	TIME: 9 weeks	

The Learning Outcomes that will be evaluated in this Project are:

- C01 Analyse theory and principles of information security, types of security threats, potential attacks, data cryptography, firewalls, and intrusion detection systems.
- C02 Construct attack and defence methods into computer and network environments.
- C02 Relate their surrounding environment (i.e. economy, environment, cultural) with the professional practice in the context of data network and security.

Please follow the instructions carefully:

1. The total mark of this project is 100 that will bring 25% for assessment marks.
2. This project is a group project with a maximum of 5 students in a group (/decided by lecturer based on the total no. of students).
3. Discuss among yourself and choose a group leader (/group representative); Group leader is responsible for task distribution, report submission in Kalam and others that is related.
4. Read the instructions given carefully and follow the rubric given to complete your task.

Read and understand the following requirements:

1. You are required to determine an organization (manufacturing/sales companies such as watch, shoes, musical instruments, and others). Assume that **the organization asked you to test** their data and network security. (Please inform your lecturer about the chosen organization to avoid clashing of organization among groups)
2. You need to understand the organization business not limited to clients, staff, system used, the service provided.
3. Create the objectives of **the security test** that will be performed during the testing. Ensure you can meet your set objectives successfully. (E.g. to investigate the vulnerabilities that are available in the organization)
4. Analyse the authentication and encryption used by the organization. You need to elaborate both techniques that have been determined based on how it is implemented in the organization.
5. Provide flow chart/ pseudocode of encryption that has been used by the organization. Then transform the flow chart/ pseudocode into programming code. Also, you need to provide the output of the programming code.
6. Identify any **TWO (2)** possible **attacks** that can be launched on the organization by the attacker.
7. Identify **THREE (3)** **tools** for each **attack** that can be used by the attacker to perform the attacks in 6.

8. You need to conduct the attack by using one of the tools in 7 for each type of attack. Plan and document your attack activity including who is involved, the tools used, when to conduct the attack, how many trials taken, and the way to conduct the activity.
9. You need to perform the simulation attack. Then show the steps involved with the detailed explanations. Please show the result for each trial and one attack perform for each attack.
10. For each trial of attack, please show the result and discuss the result with justification.
11. Write a formal agreement letter to the organisation to inform them about your plan. **NO** need to send the letter to organization.
12. You also need to provide the solutions that should be implemented by the organisation based on the output of attack in 10. Explain in detail how to perform, the module involved and who will be involved.
13. Any resources that has been used during the activities (book, technical paper, website and other), **compulsory to be cited in report and list them in report references.**
14. Document your task distribution, meetings discussion and others in your report.
15. You need to prepare a **video presentation for 3 minutes**. The 3 minutes video creation is according to your creativity **NOT EXCEEDING 4-5GB**. Your creativity might gather you more marks.
16. In both report and video, please ensure the lecturer identify the group members using their photo, name, and student identification number.
17. Please ensure that, in the last page of your report you attach your Turnitin plagiarism % result of your project report (if the lecturer finds any form of plagiarism, this will lead to **0** marks project)
18. Please refer the rubric to complete your report.

Report format:

- a) Front page must contain project name, group members (photo, name, student identification number, and section), lecturer name and submission date.
- b) Table of Content.
- c) Font type – Century Gothic.
- d) Font size – 10.
- e) Table of contents.
- f) Provide the content based on tasks and rubric provided.
- g) List of references.

Submission due date: 31st December 2020 BEFORE 5.00 PM (1. Report softcopy in .pdf format only 2. 3 minutes video in KALAM)

Report and video file name: Example (5members in a group)

CA16058-17123CB17023-26CD15034.pdf / .any video format

Rubric – Refer Pdf Attachment

BCN2023 - Data & Network Security

Project- 25%

Students Id:									
C0	Elements	Scale	0 weak	1	2	3	4	5 Excellent	Mark Granted
C01 - Analyse theory and principles of information security, types of security threats, potential attacks, data cryptography, firewalls, and intrusion detection systems.			not provide	provide not clear	provide some general	provide some explain	provide with some well explain	provide with excellent explanation	
	Organization/ company information	10						5	10.000
	The objectives of security test and show the task for each objective	5						5	5.000
			not provide	planning missing 5 requirement with well explanation	planning missing 4 requirement with well explanation	planning missing 3 requirement with well explanation	planning missing 2 requirement with well explanation	excellent planning and explanation	
	attack planning detail	5						5	5.000
			not provide	Correctly provide without explanation	provide with unclear explanation	provide with some explanation	provide with explanation and example	provide with excellent explanation and the example used	
	elaborate how the problem can be occur and affect to the systems in organization	10						5	10.000
	Information about authentication process	5						5	5.000
			not provide	only state what is (1 or 2)	state the general information (1 @2 tools)	state the information with some elaboration (2 tools)	state the information with well elaboration (2 tools)	state the actions taken with excellent elaboration (2 tools)	
	Identify tools that can be used to perform the attack	5						5	5.000
			not provide	provide without justification	provide with general justification	provide with justification related to organisation	provide with logic justification related to organisation	provide with logic justification related to organisation and general explain how it work	
	cryptography techniques determination, justification, flow chart	15						5	15.000
			not provide	provide not clear	provide some general	provide some explain	provide with some well explain	provide with excellent explanation	
	Solution Proposed with justification and reason	5						5	5.000
Total C01									60.00

C02 - Construct attack and defence methods into computer and network environments.			not provide	provide not clear	provide some general	provide some explain	provide with some well explain	provide with excellent explanation	
	simulation attacks	5						5	5.000
	Attack result - with justification	5						5	5.000
			not provide			provide not correct		provide with correct and logic output	
	result - from encryption code	5						5	5.000
			not provide		provide only flow chart	only Code	provide some correct flow chart and correct code	provide correct flow chart AND correct Code	
	Correct code and flow	5						5	5.000
Total C02									20.00
C03 - Relate their surrounding environment (i.e. economy, environment, cultural) with the professional practice in the context of data network and security.			not provided		provide general information	provide some missing		provide detail with the planning produce	
	letter to organization	4						5	4.000
			not provide	provide without explanation	provide with general explanation	provide with explanation		provide with excellent explanation	
	Team - Task delegation (individual) knowledge	10						5	10.000
			not follow the format and content	not follow the format and some contents provide	follow some format and missing some content	some format used and provide all content	all format use as required and provide some content	all format use as required and provide all content	
	Format, contents, citation (references)	3						5	3.000
			more 60%	more 50%	more 40%	more 30%	more 20%	less than or equal 20%	
	Turnitin	3						5	3.000
Total C03									20.000
Grand Total									100.00

Student Id	Mark Deduct		Final Mark C03
	TASK CONDUCT Max: 5 Marks	TASK COMPLETE Max: 5 Marks	
			20.00
			20.00
			20.00
			20.00
			20.00