Assignment 4

Deadline: Tuesday 06/04/2021 @ 23:59

**[Total Mark for this Assignment is 5]**

***Computer Organization***

***IT110***

**Instructions:**

* You must submit two separate copies **(one Word file and one PDF file)** using the Assignment Template on Blackboard via the allocated folder. These files **must not be in compressed format**.
* It is your responsibility to check and make sure that you have uploaded both the correct files.
* Zero mark will be given if you try to bypass the SafeAssign (e.g. misspell words, remove spaces between words, hide characters, use different character sets or languages other than English or any kind of manipulation).
* Email submission will not be accepted.
* You are advised to make your work clear and well-presented. This includes filling your information on the cover page.
* You must use this template, failing which will result in zero mark.
* You MUST show all your work, and text must not be converted into an image, unless specified otherwise by the question.
* Late submission will result in ZERO mark.
* The work should be your own, copying from students or other resources will result in ZERO mark.
* Use **Times New Roman** font for all your answers.

Student Details:

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Name:** ###**CRN:** ### |  | **ID:** ### |
|  |  |  |

# Question One

***2 Marks***

*Learning Outcome(s):*

Analyze the relationship between computer system structure and performance.

**Explain the instruction format, and describe the differences between zero, one, two, and three address instructions.**

# Question Two

***1.5 Marks***

*Learning Outcome(s):*

*Analyze the relationship between computer system structure and performance.*

**Define the instruction of Pipelining? Do pipelining and superscalar processing techniques affect the number of clock cycles of any individual instruction? Explain your answer in your own word.**

# Question Three

***1.5 Marks***

*Learning Outcome(s):*

*Develop assembly language programs.*

*Explain various machine language concepts.*

**Show the execution of the following instruction using 0-address (stack) instruction set a=a+b\*c and how many references to memory are required?**