NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, DEPARTMENT OF FINANCE

MSC FINANCIAL ENGINEERING

FINANCIAL COMPUTING (CFE 5102)

2022-23 GROUP ASSIGNMENT 1

DUE DATE: 14th MAY 2023

INSTRUCTIONS

- Candidates should work and submit the assignment in groups of four of their choice.
- Submissions exhibiting evidence of plagiarism or lacking originality will be penalised.
- For the completed assignment, submit all the three **C++** file zipped in a compressed folder in Google Classroom on or before due date.

CREATING A C++ PROGRAM

Create the user interface system of a capital budgeting program in C++ that that works as follows:

- Firstly, the user inputs:
  - the number of separate projects he wishes to evaluate; and
  - The cost of capital (the required rate of return) that will be used to evaluate the projects.
- When each project's turn to be evaluated comes up, the user then inputs the following:
  - The number of years for which each project is expected to run;
  - Initial cash outlay at the beginning of the first year;
  - The expected cash flows received at the end of each year; and
- In return, the program computes the following for each evaluated project:
  - present values of each cash flow in each of the years; and
  - the net present value of each at the end of the final year.
- Finally, after computing for all the projects, the program will state which project has the highest NPV.
- Assume that:
  - all cash flows are in USD; and
  - all cash flows occur at the end of each year, except for the initial cash outlay that will only occur once and at the beginning of the first year.

All the components of the program should as far as possible be broken down into functions.

Required

Create a program that meets all the above requirements. [50]

Programs that fail to run will not be awarded any marks. Marks will be awarded for originality, practicality, usability, and innovativeness in program design. Plagiarised work will not be awarded any marks.