FIRST ASSIGNMENT
JUNE SEMESTER 2021

BACHELOR OF COMPUTER SCIENCE (HONS.)
(IN COLLABORATION WITH IUKL)

DISTRIBUTED AND PARALLEL COMPUTING
(CSC 2624)

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GENERAL INSTRUCTIONS

1. This question booklet consists of 2 pages including this page.
2. There is one **SECTION** in this question booklet.
3. Please submit assignment solution in **SOFT COPY (PDF FORMAT).**
4. **The Deadline for Submission of Assignment is on 13th July.**

SECTION A **(30 Marks)**

This section consists of TWO (2) questions. Answer all question.

1. Write a C++ thread based program that implements FOUR (4) threads such that each thread run FOUR (4) different functions *add(int a, int b), sub(int a, int b), divide(int a, int b) and multiply(int a, int b).* And waits for the main thread before terminating and also implement MUTEX to avoid the race condition for IO.

(16 marks)

2. Write a C++ threaded program to compute the sum of 10 Billon (10000000000) natural number using For loop. You should split the For loops into FOUR (4) different threads and compute the sum independently. Use Main thread to compute the total sum from four different thread and print the result.

Hint: Use shared memory variable to access the result of child threads from main threads.

(14 marks)

*****END OF QUESTIONS*****