ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

MID SEMESTER EXAMINATION   **WINTER SEMESTER, 2019-2020**
DURATION: 1 Hour 30 Minutes   **FULL MARKS: 75**

CSE 6197: Distributed and Parallel Computing

Programmable calculators are not allowed. Do not write anything on the question paper.
There are **4 (four)** questions. Answer any **3 (three)** of them.
Figures in the right margin indicate marks.

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1. a) What is parallel computing? Based on Flynn's taxonomy classify *programs and computers* and discuss on them in brief.   2+8
    b) Discuss on various types of parallelism.   10
    c) Write short note on *cluster computing*.   5

2. a) What is task parallelism? Discuss with an example.   12
    b) Discuss how Instruction-level parallelism works.   13

3. a) Give a description of Uniform Memory Access (UMA) architecture.   10
    b) Provide a basic concept of Non-uniform Memory Access (NUMA) architecture used in multiprocessing.   15

4. a) What is Symmetric multiprocessing? Explain its brief architecture with a diagram. 10
    b) Compare parallel and distributed system.   10
    c) List some applications of distributed system.   5