Parallel and Distributed Computing (6E / 6F) Quiz 04 (Spring 2022). Instructor: Dr. Syed M. Irteza		Name:
Date: 2022-05-25		Roll Number:
Total Marks: 15 (5*2m + 5m)	Time Allowed: 10 mins	

1. When we discussed All-to-All Personalized Communication, we used _____ as an example, and this form of communication can be called _____.
    a. Matrix multiplication; total exchange
    b. Matrix transposition; total exchange
    c. Matrix multiplication; all-to-all broadcast
    d. Prefix sum; all-to-all reduction

2. The purpose of _____ is to terminate MPI, whereas _____ enables us to determine the number of processes within the domain specified.
    a. `MPI_End(); MPI_Comm_rank(comm, *rank)`
    b. `MPI_Finalize(); MPI_Num_Procs(comm, *size)`
    c. `MPI_Terminate(); MPI_Comm_size(comm, *size)`
    d. `MPI_Finalize(); MPI_Comm_size(comm, *size)`

3. If tag is set to MPI_ANY_TAG, this is an example of:
    a. A wildcard argument for source
    b. A wildcard argument for destination
    c. A wildcard argument for tag
    d. An argument that enforces we receive messages with a specific tag

4. For the sorting algorithm we used with MPI, we modified BubbleSort such that:
    a. Each process only compares with any randomly chosen pair process in each iteration
    b. Each process only compares with its right neighbor in each iteration
    c. Each process only compares with its left neighbor in each iteration
    d. Each process only compares with its left or right neighbor in each alternative iteration

5. MPI is a standard library for _____, assuming a _____ memory architecture
    a. Message passing; distributed
    b. Socket programming; distributed
    c. Message passing; shared
    d. Multi-threading; shared

6. When we assume that MPI_Recv and MPI_Send are both blocking, what possible method can we use to save ourselves from deadlock, if each process has to send a message to its neighbor to the left?

[5m]