HPC - Unit Test-II (A.Y. 2020-21)

* Required

Q1 to Q5

1. The first step in developing a parallel algorithm is * 2 points

Mark only one oval.

- Decomposition
- Mapping
- Distribution of data
- Synchronization

2. The mapping is determined by using ..... * 2 points

Mark only one oval.

- task-dependency graph
- task-interaction graph
- both A & B
- none of the above

3. Which task characteristics (listed below) help to determine the more efficient mappings * 2 points

Mark only one oval.

- Task generation
- Task size
- Size of the data associated with each task
- all of the above

4. Tasks may be of * 2 points

Mark only one oval.

- same size
- different size
- even intermediate size
- all of the above

5. A technique based upon recursive divide and conquer partitioning of the problem is known as... * 2 points

Mark only one oval.

- Data decomposition
- Exploratory decomposition
- Recursive decomposition
- Speculative decomposition

Q6 to Q10

6. The number of tasks is small but the size of each task is large known as * 2 points

Mark only one oval.

- Fine-grained decomposition
- Maximum degree of concurrency
- Average degree of concurrency
- Coarse-grained decomposition

7. All tasks are known before the algorithm starts is called.... * 2 points

Mark only one oval.

- Static task generation
- Dynamic task generation
- both
- none of the above

8. Select the correct one * 2 points

Mark only one oval.

- Processes run on processors but multiple processes may be assigned to one processor
- Processes run on processors but multiple processes may be assigned to multiple processor
- Processes run on processors but multiple processes may be not assigned to one processor
- Processes run on processors but multiple processes may be not assigned to multiple processor

9. Topological sorting is an example of * 2 points

Mark only one oval.

- Data decomposition
- Speculative decomposition
- Recursive decomposition
- Exploratory decomposition

10. Example of uniform-sized tasks is * 2 points

Mark only one oval.

- Quick Sort
- Dense Matrix-Vector Multiplication
- 15-Puzzle
- Sparse Matrix-Vector Multiplication

Q11 to Q15

11. Data decomposition is focused on the following approach * 2 points

Mark only one oval.

- Partition the input data
- Partition the output data
- Partition the intermediate data
- all of the above

12. Scheme for static mapping is based on * 2 points

Mark only one oval.

- Data Partitioning
- Task Partitioning
- Both
- None of the above

13. Mappings that reduce overheads, either Inter-process communication or time consumed by processes idling * 2 points

Mark only one oval.

- True
- False

14. In Exploratory decomposition, the output from a task is --- * 2 points

Mark only one oval.

- 0
- 1
- known
- unknown

15. The task-interaction graph is usually a superset of the task-dependency graph * 2 points

Mark only one oval.

- True
- Flase