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| **UNIT-2** |

**Note: Correct Answers are in Bold Fonts**

1. The First step in developing a parallel algorithm is\_
2. **To Decompose the problem into tasks that can be executed concurrently**
3. Execute directly
4. Execute indirectly
5. None of Above
6. The number of tasks into which a problem is decomposed determines its\_
7. **Granularity**
8. Priority
9. Modernity
10. None of above
11. The length of the longest path in a task dependency graph is called\_
12. **the critical path length**
13. the critical data length
14. the critical bit length
15. None of above
16. The graph of tasks (nodes) and their interactions/data exchange (edges)\_
17. **Is referred to as a *task interaction graph***
18. Is referred to as a *task Communication graph*
19. Is referred to as a *task interface graph*
20. None of Above
21. Mappings are determined by\_
22. task dependency
23. task interaction graphs
24. **Both A and B**
25. None of Above
26. Decomposition Techniques are\_
27. recursive decomposition
28. data decomposition
29. exploratory decomposition
30. speculative decomposition
31. **All of Above**
32. The *Owner Computes Rule* generally states that the process assigned a particular data item is responsible for\_
33. **All computation associated with it**
34. Only one computation
35. Only two computation
36. Only occasionally computation
37. A simple application of exploratory decomposition is\_
38. **The solution to a 15 puzzle**
39. The solution to 20 puzzle
40. The solution to any puzzle
41. None of Above
42. Speculative Decomposition consist of \_
43. conservative approaches
44. optimistic approaches
45. **Both A and B**
46. Only B
47. task characteristics include:
48. Task generation.
49. Task sizes.
50. Size of data associated with tasks.
51. **All of Above**
52. Choose the most accurate (**CORRECT**) statement:
    1. **Scalability is a measure of the capacity to increase speedup in proportion to the number of processors**
    2. Efficiency is the ratio of the serial run time of the best sequential algorithm for solving a problem to the time taken by the parallel algorithm to solve the same problem on p processors
    3. Run time is the time that elapses from the moment a parallel computation starts to the moment the last processor finishes.
    4. Superlinear is the fraction of time for which a processor is usefully employed
53. Parallelism can be used to increase the (parallel) size of the problem is applicable in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. Amdahl's Law
    2. **Gustafson-Barsis's Law**
    3. Newton's Law
    4. Pascal's Law
54. \_\_\_\_\_\_\_\_\_\_\_\_ is due to load imbalance, synchronization, or serial components as parts of overheads in parallel programs.
    1. Interprocess interaction
    2. Synchronization
    3. **Idling**
    4. Excess computation
55. Which of the following parallel methodological design elements focuses on recognizing opportunities for parallel execution?
    1. **Partitioning**
    2. Communication
    3. Aggromeration
    4. Mapping
56. Considering to use weak or strong scaling is part of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in addressing the challenges of distributed memory programming.
    1. Splitting the problem
    2. **Speeding up computations**
    3. Speeding up communication
    4. Speeding up hardware
57. Domain and functional decomposition are considered in the following parallel methodological design elements, **EXCE**﻿**PT**:
    1. Partitioning
    2. Communication
    3. **Agglomeration**
    4. Mapping
58. Synchronization is one of the common issues in parallel programming. The issues related to synchronization include the followings, **EXCEPT**:
    1. Deadlock
    2. Livelock
    3. Fairness
    4. **Correctness**
59. Which of the followings is the **BEST** description of Message Passing Interface (MPI)?
    1. A specification of a shared memory library
    2. **MPI uses objects called communicators and groups to define which collection of processes may communicate with each other**
    3. Only communicators and not groups are accessible to the programmer only by a "handle"
    4. A communicator is an ordered set of processes

Name and Sign of Subject Teacher