

# High Performance Computing (HPC) MCQs [set-15]

**351. Multiprocessor is systems with multiple CPUs, which are capable of independently executing different tasks in parallel. In this category every processor and memory module has similar access time?**

- A. uma
- B. microprocessor
- C. multiprocessor
- D. numa

Answer: A

---

**352. For inter processor communication the miss arises are called?**

- A. hit rate
- B. coherence misses
- C. comitt misses
- D. parallel processing

Answer: B

---

**353. NUMA architecture uses \_\_\_\_\_ in design?**

- A. cache
- B. shared memory
- C. message passing
- D. distributed memory

Answer: D

---

**354. A multiprocessor machine which is capable of executing multiple instructions on multiple data sets?**

- A. sisd
- B. simd
- C. mimd
- D. misd

Answer: C

---

**355. In message passing, send and receive message between?**

- A. task or processes
- B. task and execution
- C. processor and instruction
- D. instruction and decode

Answer: A

---

**356. The First step in developing a parallel algorithm is\_\_\_\_\_?**

- A. to decompose the problem into tasks that can be executed concurrently
- B. execute directly
- C. execute indirectly
- D. none of above

Answer: A

---

**357. The number of tasks into which a problem is decomposed determines its?**

- A. granularity
- B. priority
- C. modernity
- D. none of above

Answer: A

---

**358. The length of the longest path in a task dependency graph is called?**

- A. the critical path length
- B. the critical data length
- C. the critical bit length
- D. none of above

Answer: A

---

**359. The graph of tasks (nodes) and their interactions/data exchange (edges)?**

- A. is referred to as a task interaction graph
- B. is referred to as a task communication graph
- C. is referred to as a task interface graph
- D. none of above

Answer: A

---

**360. Mappings are determined by?**

- A. task dependency

- B. task interaction graphs
- C. both a and b
- D. none of above

Answer: C

---

**361. Decomposition Techniques are?**

- A. recursive decomposition
- B. data decomposition
- C. exploratory decomposition
- D. all of above

Answer: D

---

**362. The Owner Computes Rule generally states that the process assigned a particular data item is responsible for?**

- A. all computation associated with it
- B. only one computation
- C. only two computation
- D. only occasionally computation

Answer: A

---

**363. A simple application of exploratory decomposition is\_?**

- A. the solution to a 15 puzzle
- B. the solution to 20 puzzle
- C. the solution to any puzzle
- D. none of above

Answer: A

---

**364. Speculative Decomposition consist of \_?**

- A. conservative approaches
- B. optimistic approaches
- C. both a and b
- D. only b

Answer: C

---

**365. task characteristics include?**

- A. task generation.
- B. task sizes.

- C. size of data associated with tasks.
- D. all of above

Answer: D

---

**366. Writing parallel programs is referred to as?**

- A. parallel computation
- B. parallel processes
- C. parallel development
- D. parallel programming

Answer: D

---

**367. Parallel Algorithm Models?**

- A. data parallel model
- B. bit model
- C. data model
- D. network model

Answer: A

---

**368. The number and size of tasks into which a problem is decomposed determines the?**

- A. fine-granularity
- B. coarse-granularity
- C. sub task
- D. granularity

Answer: A

---

**369. A feature of a task-dependency graph that determines the average degree of concurrency for a given granularity is its \_\_\_\_\_ path?**

- A. critical
- B. easy
- C. difficult
- D. ambiguous

Answer: A

---

**370. The pattern of \_\_\_\_\_ among tasks is captured by what is known as a task-interaction graph?**

- A. interaction

- B. communication
- C. optimization
- D. flow

Answer: A

---

**371. Interaction overheads can be minimized by\_\_\_\_\_?**

- A. maximize data locality
- B. maximize volume of data exchange
- C. increase bandwidth
- D. minimize social media contents

Answer: A

---

**372. Type of parallelism that is naturally expressed by independent tasks in a task-dependency graph is called \_\_\_\_\_ parallelism?**

- A. task
- B. instruction
- C. data
- D. program

Answer: A

---

**373. Speed up is defined as a ratio of?**

- A.  $s = t_s / t_p$
- B.  $s = t_p / t_s$
- C.  $t_s = s / t_p$
- D.  $t_p = s / t_s$

Answer: A

---

**374. Parallel computing means to divide the job into several \_\_\_\_\_?**

- A. bit
- B. data
- C. instruction
- D. task

Answer: D

---

**375. \_\_\_\_\_ is a method for inducing concurrency in problems that can be solved using the divide-and-conquer strategy?**

- A. exploratory decomposition
- B. speculative decomposition

C. data-decomposition

D. recursive decomposition

Answer: C

---