**M.Sc. Sem-IV (CS)**

**Paper-IV (Parallel Computing)**

**Unit-I**

1. FLOPS Stands for

**A. floating point operations per second**

B. floating pin operation per second

C. floating purpose operation per second

D. None of these

Ans: A

2. The infeasibility of collecting this data at a Outer location for analysis requires effective parallel and distributed algorithms

A. True

**B. False**

Ans: B

3. A modern automobile consists of tens of processors communicating to perform Simple tasks for optimizing handling and performance

A. True

**B. False**

Ans: B

4. The flow of control through a program enforces a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_form of dependency between instructions.

**A. third**

B. second

C. first

D. None of these

Ans: A

5. The rate at which data can be pumped from the memory to the processor determines the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of the memory system.

A. frequency

B. latency

**C. bandwidth**

D. None of above

Ans: C

6. Motivating Parallelism includes

A. the computational power argument from transistors to FLOPS

B. the memory/Disk speed argument

C. the data communication argument

**D. All of the above**

Ans: D

7. 100 MFLOPs corresponds to:

A. i/ 100 million floating-point operations/second B. 1/1010 million floating-point operations/second

**C. 100 million floating-point operations/second**

D. None of above

Ans: C

8. Parallelism is equal to

**A. Hardware parallelism and Software parallelism**

B. Hardware parallelism only

C. Software parallelism only

D. None of above

Ans: A

9. SETI Stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**A. Search for Extra Terrestrial Intelligence**

B. Search for External Terrestrial Intelligence

C. Search for Extra trivial Intelligence

D. None of these

Ans: A

10. MEMS Stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**A. micro electro-mechanical system**

B. medium electro-mechanical system

C. micro electric-mechanical system

D. None of these

Ans: A

11. A parallelism based on increasing processor word size.

A. Increasing

B. Count based

C. Bit based

**D. Bit level**

Ans: D

12. The Scope of Parallel Computing

A. Applications in Engineering and Design

B. Scientific Applications

C. Commercial Application

**D. All of above**

Ans: D

13. NEMS Stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**A. nano electro-mechanical system**

B. newly electric-mechanical system

C. nano electric-mechanical system

D. None of these

Ans: A

14. UMA Stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**A. Uniform memory access**

B. Unified memory access

C. Unique memory access

D. None of above

Ans: A

15. Match the following:

1. A bus-based network A. one processor acts as the central processor

2. A completely-connected network B. the simplest network consisting

of a shared medium that is common to all the nodes

3. A star-connected network C. each node has a direct

communication link to every other node in the network

4. A tree network D. one in which there is only one

path between any pair of nodes.

**Ans: 1-B, 2-C, 3-A, 4-D**

16. Match the following:

1. A routing mechanism A. scheme determines a unique

path for a message, based on its source and destination

2. A deterministic routing B. determines the path a message

takes through the network to get from the source to the destination node

3. An adaptive routing C. the dimension ordered routing

technique for a two-dimensional mesh

4. A XY-routing D. scheme uses information

regarding the current state of the network to determine the path of the message

**Ans: 1-B, 2-A, 3-D, 4-C**

17. Parallel computing uses\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_execution.

A. unique

**B. simultaneous**

C. sequential

D. None of these

Ans: B

18. Interconnection networks can be classified as

**A. static**

**B. dynamic**

C. Single

D. double

Ans: A & B

19. The principal parameters that determine the communication latency are as follows:

**A. Per-word transfer time**

B. Per-second time

C. Per-minute time

**D. Per-hop time**

Ans: A & D

20. It is possible to achieve parallelism

**A. With and within the CPU**

B. With many CPUs only

C. Without CPUs

D. All of above

Ans: A

21. The overall performance of the memory system is determined by the fraction of the total memory requests that can be satisfied from the cache

**A. True**

B. False

Ans: A

22. The cost benefits of parallelism coupled with the performance requirements of applications present compelling arguments in favor of parallel computing.

**A. True**

B. False

Ans: A

23. Advances in computational physics and chemistry have focused on understanding processes ranging in scale from quantum phenomena to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_structures.

A. micromolecular

**B. macromolecular**

C. mediummolecular

D. None of above

Ans: B

24. The availability of large-scale transaction data has also sparked considerable interest in

A. data mining

B. analysis for optimizing business

C. marketing decisions

**D. All of above**

Ans: D

25. The only part of the execution units are used during a cycle is termed as

A. Vertical Waste

**B. Horizontal Waste**

C. Linear Waste

D. None of these

Ans: B

26. The form of dependency in which two instructions compete for a single processor resource is referred to as resource dependency

**A. True**

B. False

Ans: A

27. Memory bandwidth refers to the rate at which data can be moved between the processor and memory.

**A. True**

B. False

Ans: A

28. Match the following:

1. Exclusive-read, exclusive-write (EREW) PRAM A. allows multiple read and write accesses to a common memory location.

2. Concurrent-read, exclusive-write (CREW) PRAM B. Multiple write accesses are allowed to a memory location

3. Exclusive-read, concurrent-write (ERCW) PRAM C. access to a memory location is exclusive

4. Concurrent-read, concurrent-write (CRCW) PRAM D. multiple read accesses to a memory location are allowed.

**Ans: 1-C, 2-D, 3-B, 4-A**

29. The total number of ports on a switch is also called the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of the switch.

A. node

B. correspondence

**C. degree**

D. Point

Ans: C

30. Protein and gene databases (such as PDB, SwissProt, and ENTREZ and NDB) along with Sky Survey datasets (such as the Sloan Digital Sky Surveys) represent some of the smallest scientific datasets.

A. True

**B. False**

Ans: B

31. Architecture of typical directory based systems are

**A. centralized directory**

B. present directory

**C. distributed directory**

D. single directory

Ans: A & C

32. The motivation for parallelism comes not just from the need for computing resources but also from the infeasibility or undesirability of alternate (centralized) approaches

**A. True**

B. False

Ans: A

33. A pipeline is like \_\_\_\_\_\_\_\_\_\_\_.

**A. an automobile assembly line**

B. house pipeline

C. both a and b

D. a gas line

Ans: A.

34. Memory address refers to the successive memory words and the machine is called as \_\_\_\_\_.

**A. word addressable**

B. byte addressable

C. bit addressable

D. Terra byte addressable

Ans: A

35. A microprogram written as string of 0's and 1's is a \_\_\_\_\_\_\_\_\_\_.

A. Symbolic microinstruction

B. binary microinstruction

C. symbolic microinstruction

**D. binary micro-program**

Ans: D

36. Memory access in RISC architecture is limited to instructions

A. CALL and RET

B. PUSH and POP

**C. STA and LDA**

D. MOV and JMP

Ans: C

37. The advantage of RISC processor over CISC processor is that

A. The hardware architecture is simpler

**B. An instruction can be executed in one cycle**

C. Less number of registers accommodate in chip

D. Parallel execution capabilities

Ans: B

38. Systems that do not have parallel processing capabilities are

**A. SISD**

B. SIMD

C. MIMD

D. All of the above

Ans: A