Total number of questions: 60

11342_High Performance Computing

Time: 1hr

Max Marks: 50

N.B

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Q.no 1. MIPS stands for?

A: Mandatory Instructions/sec

B: Millions of Instructions/sec

C: Most of Instructions/sec

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Q.no 2. Depth First Search is equivalent to which of the traversal in the Binary Trees?

A: Pre-order Traversal

B: Post-order Traversal

C: Level-order Traversal

D: In-order Traversal

Q.no 3. Regarding implementation of Breadth First Search using queues, what is the maximum distance between two nodes present in the queue? (considering each edge length 1)

A : Can be anything
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C: At most 1
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A : kernel thread
B : kernel initialization
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A: processing
B: parallel processing

C: serial processing
D : multitasking
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A:2
B:4
C:6
D:8
Q.no 10. Which of the following is not an in-place sorting algorithm?
A : Selection sort
B: Heap sort
C : Quick Sort
D : Merge sort
Q.no 11. The time complexity of heap sort in worst case is
A : O(log n)
B: O(n)
C: O(nlogn)
D: O(n^2)
Q.no 12. Most message-passing programs are written using
A : the single program multiple data (SPMD) model.
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Q.no 13. Decomposition stands for

A: Dividing Problem statement

B: Dividing no of processors

C: Dividing number of tasks

D: Dividing number of operation

Q.no 14. Message-passing programs are often written using

A: symetric Paradigm

B: asymetric Paradigm

C: asynchronous paradigm

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Q.no 15. Following is not mapping technique

A: Static Mapping

B: Dynamic Mapping

C: Hybrid Mapping

D: All of Above

Q.no 16. Which of the following is not a stable sorting algorithm?

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B: Selection sort

C: Bubble sort

D: Merge sort

Q.no 17. Type of HPC applications of

A: Management

B: Media mass

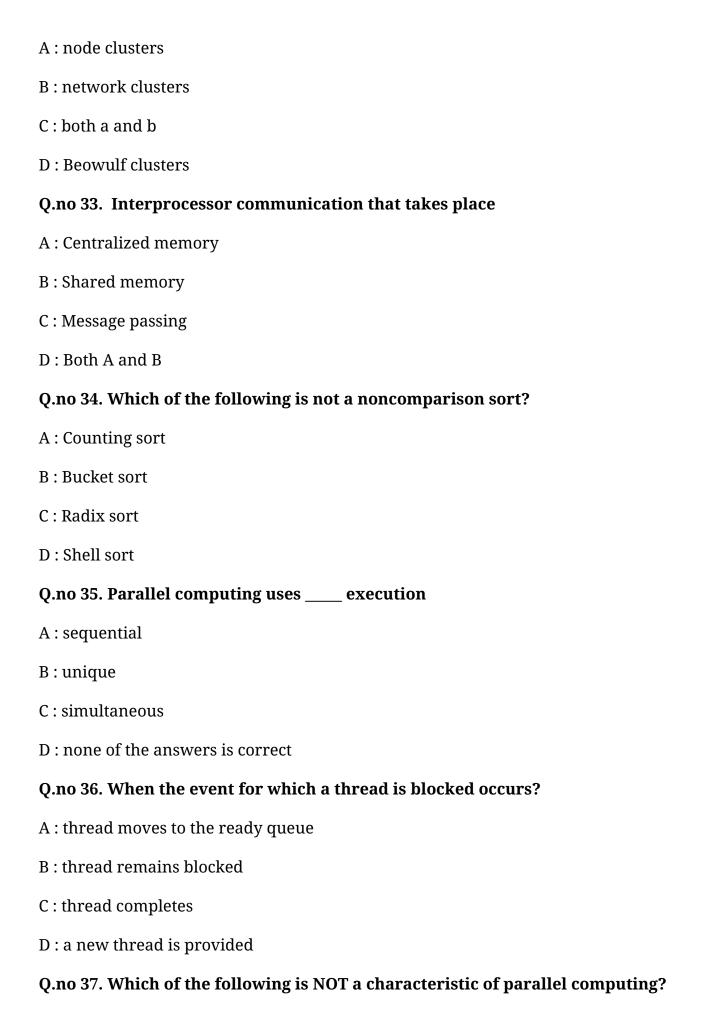
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B:global
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D: void
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A: O(n^2)
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A: When the graph is a Binary Tree
B : When the graph is a Linked List
C : When the graph is a n-ary Tree
D : When the graph is a Ternary Tree
Q.no 21. Which of the following is not an application of Depth First Search?
A : For generating topological sort of a graph
B : For generating Strongly Connected Components of a directed graph
C : Detecting cycles in the graph
D : Peer to Peer Networks
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A : Partitioned Address space

B: Exclusive address space C: Logical Adress Space D: Non shared Adress Space Q.no 23. Which one of the following is not shared by threads? A: program counter B: stack C: both program counter and stack D: none of the mentioned Q.no 24. Which of the following is a stable sorting algorithm? A: Merge sort B: Typical in-place quick sort C: Heap sort D: Selection sort Q.no 25. In only one process at a time is allowed into its critical section, among all processes that have critical sections for the same resource. A: Mutual Exclusion B: Synchronization C: Deadlock D: Starvation Q.no 26. We have an internet cloud of resources In cloud computing to form A: Centralized computing B: Decentralized computing C : Parallel computing D: All of Above Q.no 27. Broader concept offers Cloud computing .to select which of the following.

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D : Decentralized computing
Q.no 28. Writing parallel programs is referred to as
A : Parallel computation
B: Parallel processes
C : Parallel development
D : Parallel programming
Q.no 29. Network interfaces allow the transfer of messages from buffer memory to desired location without intervention
A:DMA
B: CPU
C : I/O
D: Memory
Q.no 30. Consider the situation in which assignment operation is very costly. Which of the following sorting algorithm should be performed so that the number of assignment operations is minimized in general?
A : Insertion sort
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A : single threaded
B: multithreaded
C : both single threaded and multithreaded
D : none of the mentioned
Q.no 32. High performance computing of the computer system tasks are done by

B : Centralized computing



A: Breaks a task into p	ieces
B: Uses a single proces	ssor or computer
C : Simultaneous execu	ıtion
D : May use networkin	g
Q.no 38 are maj	or issues with non-buffered blocking sends
A : concurrent and mu	tual exclsion
B: Idling and deadlock	is .
C: synchronization	
D : scheduling	
Q.no 39. If the given is algorithm gives the b	nput array is sorted or nearly sorted, which of the following est performance?
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Q.no 46. the basic operations in the message-passing programming paradigm are

A: initiate and listen

B : wait and acknoweldge

C: request and reply

D: send and receive Q.no 47. What is Inter process communication? A: allows processes to communicate and synchronize their actions when using the same address space B: allows processes to communicate and synchronize their actions without using the same address space C: allows the processes to only synchronize their actions without communication D: none of the mentioned Q.no 48. Which of the ceramic components are easier through nano structuring? A: Lubrication B: Coating C: Fabrication D: Wear Q.no 49. Execution of several activities at the same time. A: multi processing B: parallel processing C: serial processing D: multitasking Q.no 50. It is _____ speed and ____ latency. A: High, high B: Low, low C: High, low D: Low, high

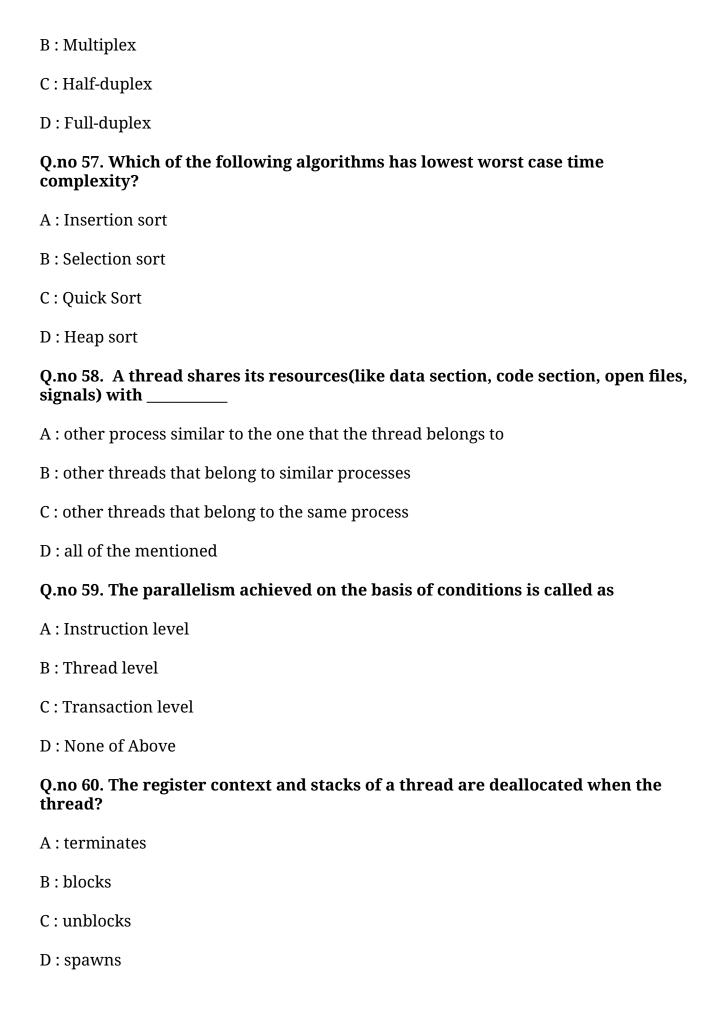
Q.no 51. Process synchronization of programs is done by

A: input

B: output

C: operating system
D: memory
Q.no 52. The management of data flow between computers or devices or between nodes in a network is called
A: Flow control
B: Data Control
C : Data Management
D : Flow Management
Q.no 53. Which of the following are TRUE for direct communication?
A : A communication link can be associated with N number of process(N = max. number of processes supported by system)
B : A communication link can be associated with exactly two processes
C : Exactly N/2 links exist between each pair of processes(N = max. number of processes supported by system)
D : Exactly two link exists between each pair of processes
Q.no 54. Thread synchronization is required because
A : all threads of a process share the same address space
B : all threads of a process share the same global variables
C : all threads of a process can share the same files
D : all of the mentioned
Q.no 55. Which of the following two operations are provided by the IPC facility?
A : write & delete message
B : delete & receive message
C : send & delete message
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Q.no 56. Which of the following is not the possible ways of data exchange?

A: Simplex



Answer for Question No 1. is b
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Answer for Question No 6. is a
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Answer for Question No 35. is c
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Answer for Question No 37. is a
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Answer for Question No 41. is b
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B: CPU
C: I/O
D : Memory
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A : Centralized memory
B : Shared memory
C : Message passing
D : Both A and B
Q.no 31. Nanoscience can be studied with the help of
A : Quantum mechanics
B : Newtonian mechanics
C : Macro-dynamic
D : Geophysics
Q.no 32. The network topology used for interconnection network.
A : Bus based
B: Mesh

C: Linear Array

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D: All of above

 $C: O(n^2)$

D: O(log n)

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A: Parallel computing

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B: Coating

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B : allows processes to communicate and synchronize their actions without using the same address space

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Q.no 41. When the event for which a thread is blocked occurs?

A: thread moves to the ready queue

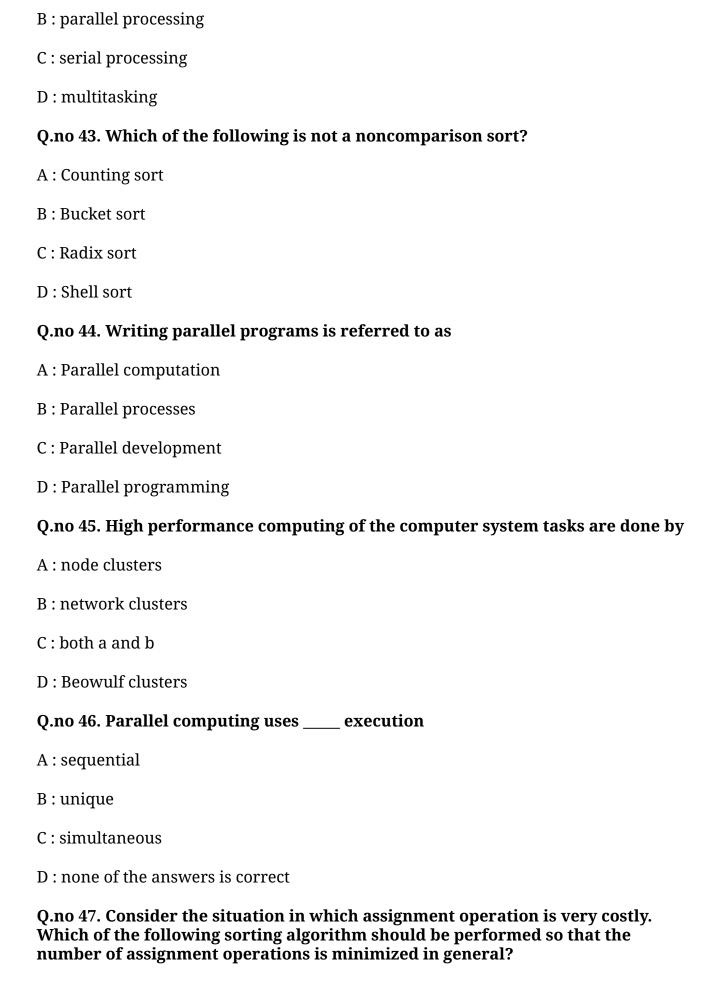
B: thread remains blocked

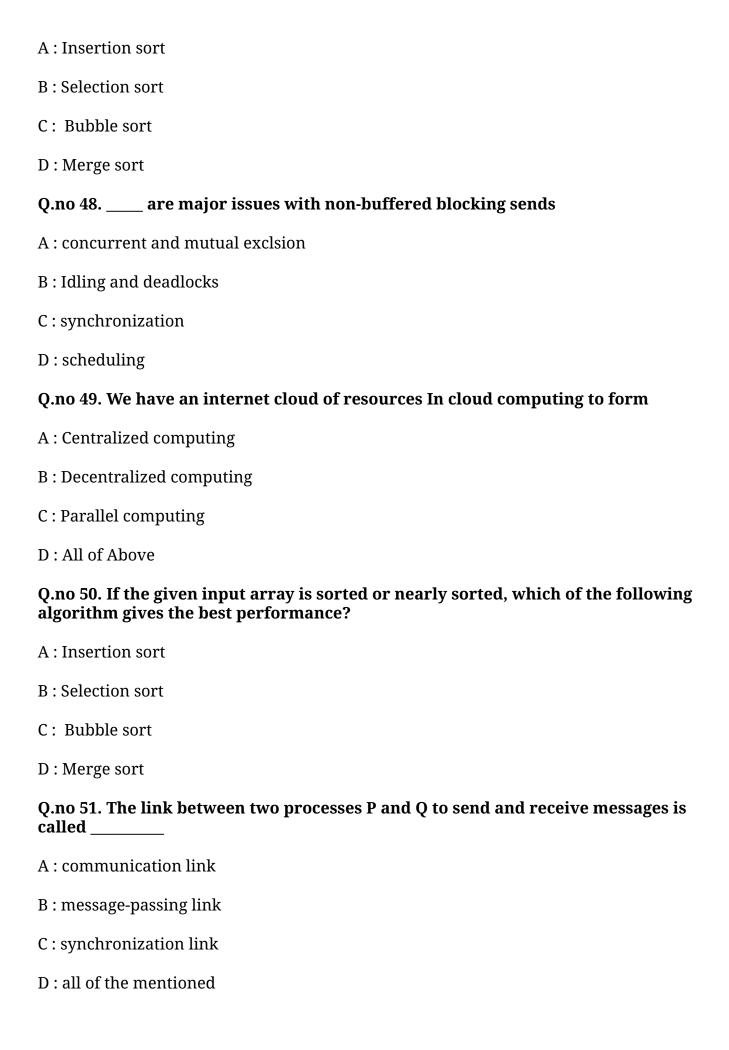
C: thread completes

D: a new thread is provided

Q.no 42. Execution of several activities at the same time.

A: multi processing





Q.no 52. Dynamic networks is a dynamic connection that grows is called
A: Multithreading
B: Cyber cycle
C: Internet of things
D : Cyber-physical system
Q.no 53. The amount of data that can be carried from one point to another in a given time period is called
A: Scope
B: Capacity
C : Bandwidth
D : Limitation
Q.no 54. Octa-core processor are the processors of the computer system that contains
A: 2 processors
B: 4 processors
C: 6 processors
D:8 processors
Q.no 55. Given a number of elements in the range $[0n^3]$. which of the following sorting algorithms can sort them in O(n) time?
A : Counting sort
B: Bucket sort
C : Radix sort
D : Quick sort
Q.no 56. Termination of the process terminates
A : first thread of the process
B : first two threads of the process
C : all threads within the process

D: no thread within the process

Q.no 57. The register context and stacks of a thread are deallocated when the thread?

A: terminates

B: blocks

C: unblocks

D: spawns

Q.no 58. Which of the following two operations are provided by the IPC facility?

A: write & delete message

B: delete & receive message

C: send & delete message

D: receive & send message

Q.no 59. Which of the following is not the possible ways of data exchange?

A: Simplex

B: Multiplex

C: Half-duplex

D : Full-duplex

$Q.no\ 60.\ The\ parallelism\ achieved\ on\ the\ basis\ of\ operations\ is\ called\ as$

A: Instruction level

B: Thread level

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Answer for Question No 1. is b	
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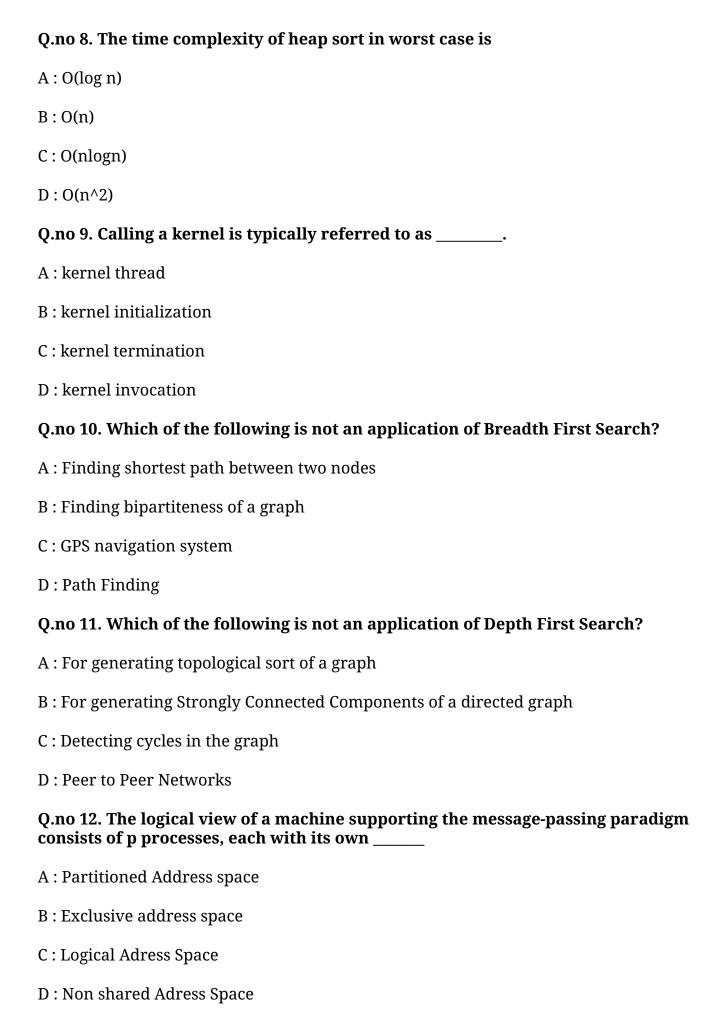
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A : Dividing Problem statement

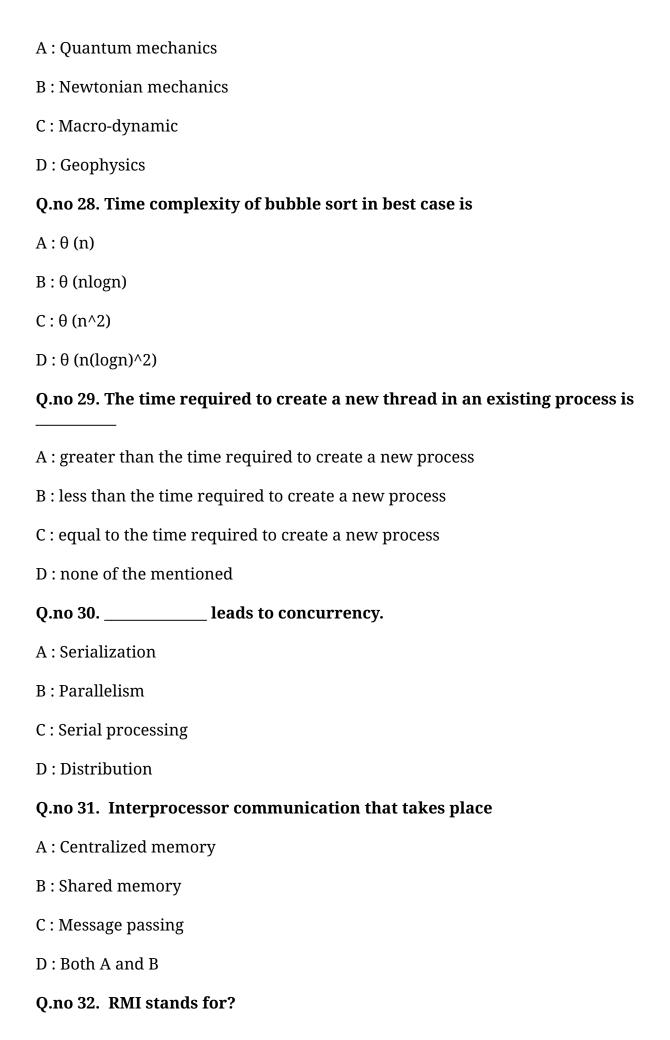
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A : Selection sort
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A: processing
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A : Multithreading
B: Cyber cycle
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Q.no 27. Nanoscience can be studied with the help of



A : Remote Mail InvocationRemote Message Invocation
B : Remaining Method Invention
C : Remaining Method Invocation
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Q.no 33. Which of the following is not a noncomparison sort?
A : Counting sort
B: Bucket sort
C : Radix sort
D : Shell sort
Q.no 34. What is Inter process communication?
A : allows processes to communicate and synchronize their actions when using the same address space
B : allows processes to communicate and synchronize their actions without using the same address space
C : allows the processes to only synchronize their actions without communication
D: none of the mentioned
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B : Idling and deadlocks
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A : node clusters
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B: Multiplex

C: Half-duplex

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D : Replication transparency
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A: cost
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C : uncertainty
D : scalability
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A: input
B: output
C: operating system
D : memory
Q.no 59. The management of data flow between computers or devices or between nodes in a network is called
A: Flow control
B : Data Control
C : Data Management
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A : Light Weight Process(LWP)
B : Heavy Weight Process(HWP)
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11342_High Performance Computing

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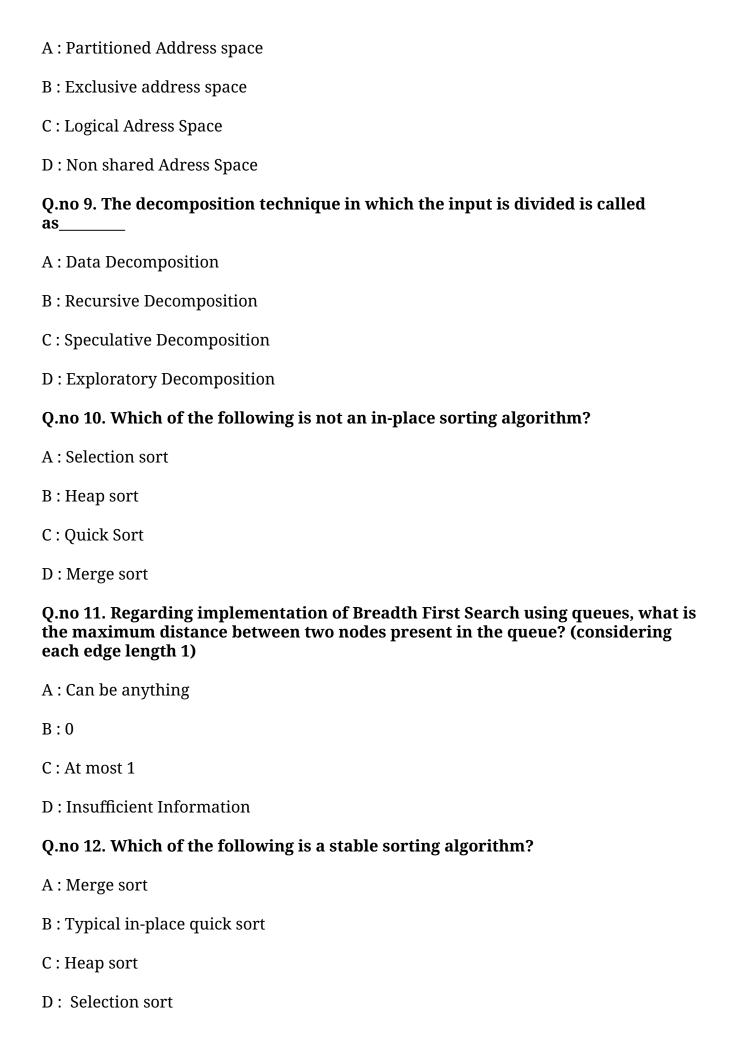
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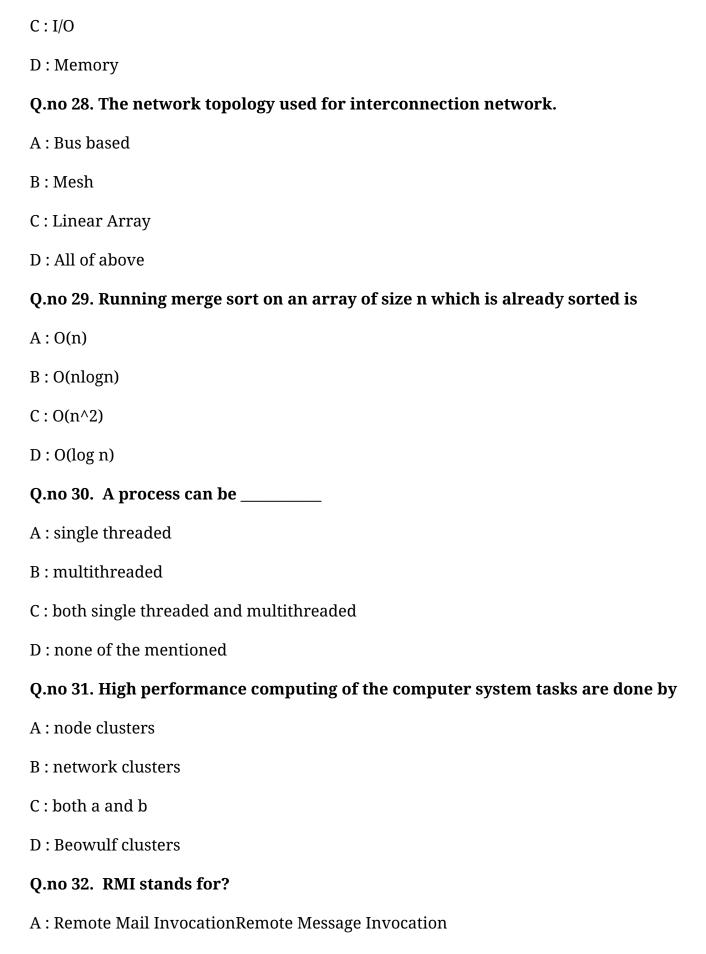
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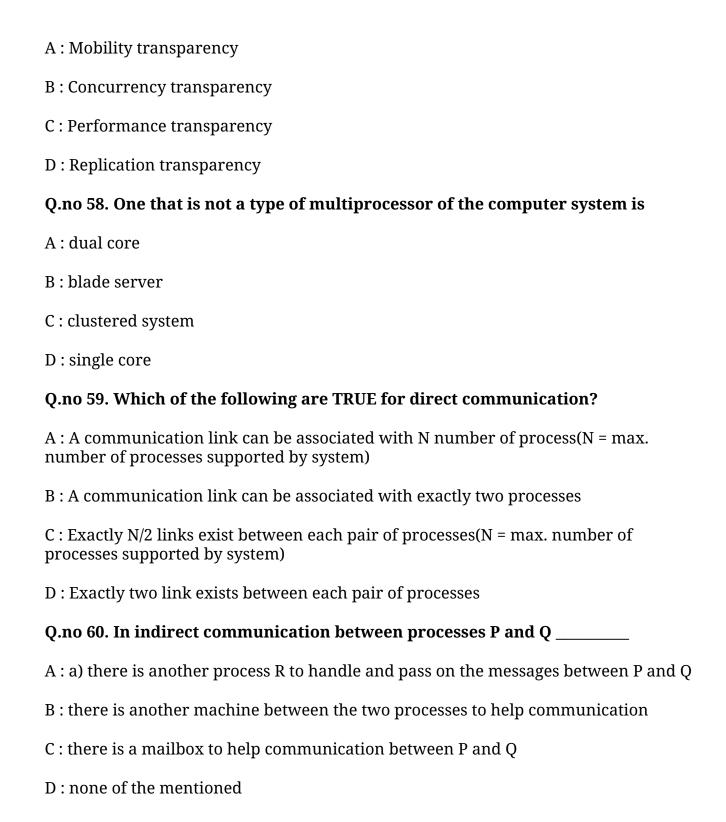
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11342_High Performance Computing

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A : Can be anything
B:0
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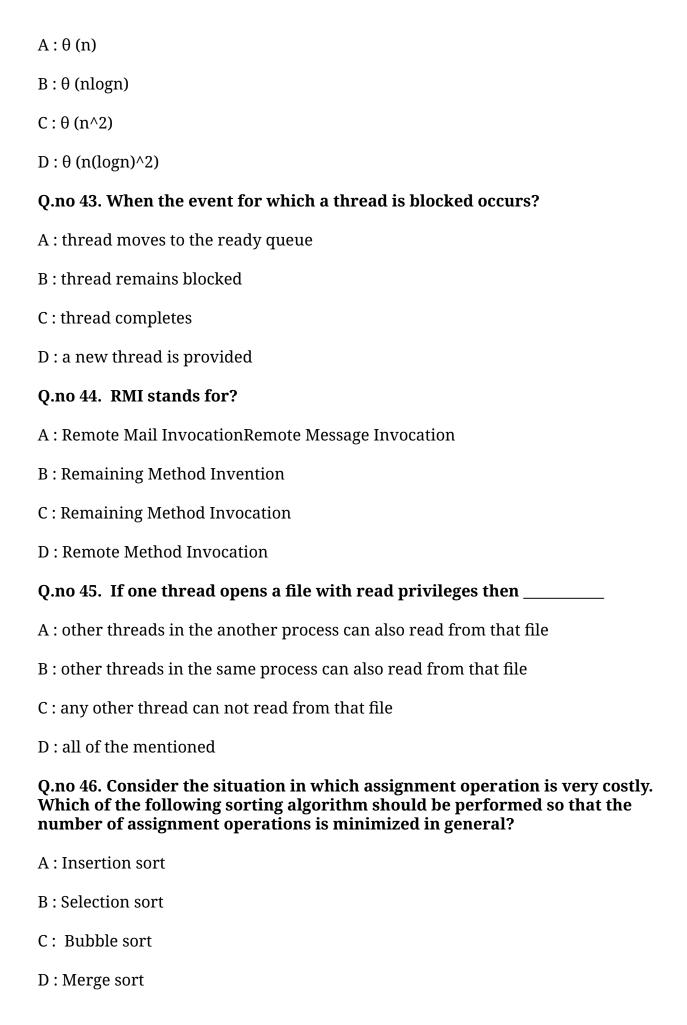
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A:DMA
B: CPU
C : I/O
D : Memory
Q.no 51. Thread synchronization is required because
A : all threads of a process share the same address space
B : all threads of a process share the same global variables
C : all threads of a process can share the same files

Q.no 47. ____ are major issues with non-buffered blocking sends

D: all of the mentioned

Q.no 52. Which of the following are TRUE for direct communication?

A : A communication link can be associated with N number of process(N = max. number of processes supported by system)

B: A communication link can be associated with exactly two processes

C : Exactly N/2 links exist between each pair of processes(N = max. number of processes supported by system)

D: Exactly two link exists between each pair of processes

Q.no 53. Resources and clients transparency that allows movement within a system is called

A: Mobility transparency

B: Concurrency transparency

C: Performance transparency

D: Replication transparency

Q.no 54. In indirect communication between processes P and Q _____

A: a) there is another process R to handle and pass on the messages between P and Q

B: there is another machine between the two processes to help communication

C: there is a mailbox to help communication between P and Q

D: none of the mentioned

Q.no 55. The architecture which can compute several tasks simultaneously at processor level itself is called as:

A : Multi core architecture

B: Multi processor architecture

C: Multi threaded architecture

D: All of above

Q.no 56. The amount of data that can be carried from one point to another in a given time period is called

A: Scope

B: Capacity
C: Bandwidth
D : Limitation
Q.no 57. Process synchronization of programs is done by
A: input
B: output
C : operating system
D: memory
Q.no 58. NVIDIA thought that 'unifying theme' of every forms of parallelism is the
A: CDA thread
B: PTA thread
C: CUDA thread
D : CUD thread
Q.no 59. The transparency that enables accessing local and remote resources using identical operations is called
A : Access transparency
B : Concurrency transparency
C: Performance transparency
D : Scaling transparency
Q.no 60. Termination of the process terminates
A : first thread of the process
B : first two threads of the process
C : all threads within the process
D : no thread within the process

Answer for Question No 1. is a
Answer for Question No 2. is d
Answer for Question No 3. is b
Answer for Question No 4. is b
Answer for Question No 5. is d
Answer for Question No 6. is a
Answer for Question No 7. is a
Answer for Question No 8. is c
Answer for Question No 9. is c
Answer for Question No 10. is b
Answer for Question No 11. is d
Answer for Question No 12. is c
Answer for Question No 13. is c
Answer for Question No 14. is d
Answer for Question No 15. is b
Answer for Question No 16. is b

Answer for Question No 17. is c
Answer for Question No 18. is b
Answer for Question No 19. is b
Answer for Question No 20. is c
Answer for Question No 21. is a
Answer for Question No 22. is a
Answer for Question No 23. is d
Answer for Question No 24. is d
Answer for Question No 25. is b
Answer for Question No 26. is c
Answer for Question No 27. is d
Answer for Question No 28. is b
Answer for Question No 29. is d
Answer for Question No 30. is a
Answer for Question No 31. is d
Answer for Question No 32. is b

Answer for Question No 33. is b	
Answer for Question No 34. is c	
Answer for Question No 35. is c	
Answer for Question No 36. is d	
Answer for Question No 37. is c	
Answer for Question No 38. is c	
Answer for Question No 39. is a	
Answer for Question No 40. is a	
Answer for Question No 41. is b	
Answer for Question No 42. is a	
Answer for Question No 43. is a	
Answer for Question No 44. is d	
Answer for Question No 45. is b	
Answer for Question No 46. is b	
Answer for Question No 47. is b	
Answer for Question No 48. is b	

Answer for Question No 49. is	b
Answer for Question No 50. is	b
Answer for Question No 51. is	d
Answer for Question No 52. is	b
Answer for Question No 53. is	a
Answer for Question No 54. is	С
Answer for Question No 55. is	a
Answer for Question No 56. is	c
Answer for Question No 57. is	c
Answer for Question No 58. is	c
Answer for Question No 59. is	a
Answer for Question No 60. is	C

Total number of questions: 60

11342_High Performance Computing

Time: 1hr

Max Marks: 50

N.B

- 1) All questions are Multiple Choice Questions having single correct option.
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- 9) Rough work shall not be done on OMR sheet or on question paper.
- 10) Darken ONLY ONE CIRCLE for each answer.

Q.no 1. The time complexity of heap sort in worst case is

A : O(log n)

B:O(n)

C: O(nlogn)

 $D:O(n^2)$

Q.no 2. Regarding implementation of Breadth First Search using queues, what is the maximum distance between two nodes present in the queue? (considering each edge length 1)

A: Can be anything

B:0

C: At most 1

D: Insufficient Information

Q.no 3. Most message-passing programs are written using

A: the single program multiple data (SPMD) model. B: the multiple program and single data(MPSD) model C: the single program single data (SPSD) model D: the Multiple program multiple data (SPMD) model Q.no 4. In only one process at a time is allowed into its critical section, among all processes that have critical sections for the same resource. A: Mutual Exclusion B: Synchronization C: Deadlock D: Starvation Q.no 5. Following is not mapping technique A: Static Mapping B: Dynamic Mapping C: Hybrid Mapping D: All of Above Q.no 6. When the Breadth First Search of a graph is unique? A: When the graph is a Binary Tree B: When the graph is a Linked List C: When the graph is a n-ary Tree D: When the graph is a Ternary Tree Q.no 7. The decomposition technique in which the function is used several number of times is called as_ A: Data Decomposition B: Recursive Decomposition

C: Speculative Decomposition

D: Exploratory Decomposition

Q.no 8. Which of the following is a stable sorting algorithm?

A: Merge sort

B: Typical in-place quick sort

C: Heap sort

D: Selection sort

Q.no 9. Following is not decomposition technique

A: Data Decomposition

B: Recursive Decomposition

C: Serial Decomposition

D : Exploratory Decomposition

Q.no 10. Which one of the following is not shared by threads?

A: program counter

B: stack

C: both program counter and stack

D: none of the mentioned

Q.no 11. Decomposition stands for

A : Dividing Problem statement

B: Dividing no of processors

C: Dividing number of tasks

D : Dividing number of operation

Q.no 12. Which of the following is not an application of Depth First Search?

A: For generating topological sort of a graph

B: For generating Strongly Connected Components of a directed graph

C: Detecting cycles in the graph

D: Peer to Peer Networks

Q.no 13. Which of the following is not an application of Breadth First Search?

A: Finding shortest path between two nodes

B : Finding bipartiteness of a graph

C: GPS navigation system

D: Path Finding

Q.no 14. Which of the following is not a stable sorting algorithm?

A: Insertion sort

B: Selection sort

C: Bubble sort

D: Merge sort

Q.no 15. Type of HPC applications of

A: Management

B: Media mass

C: Business

D: Science

Q.no 16. Which of the following is not an in-place sorting algorithm?

A: Selection sort

B: Heap sort

C: Quick Sort

D: Merge sort

Q.no 17. Message-passing programs are often written using

A: symetric Paradigm

B: asymetric Paradigm

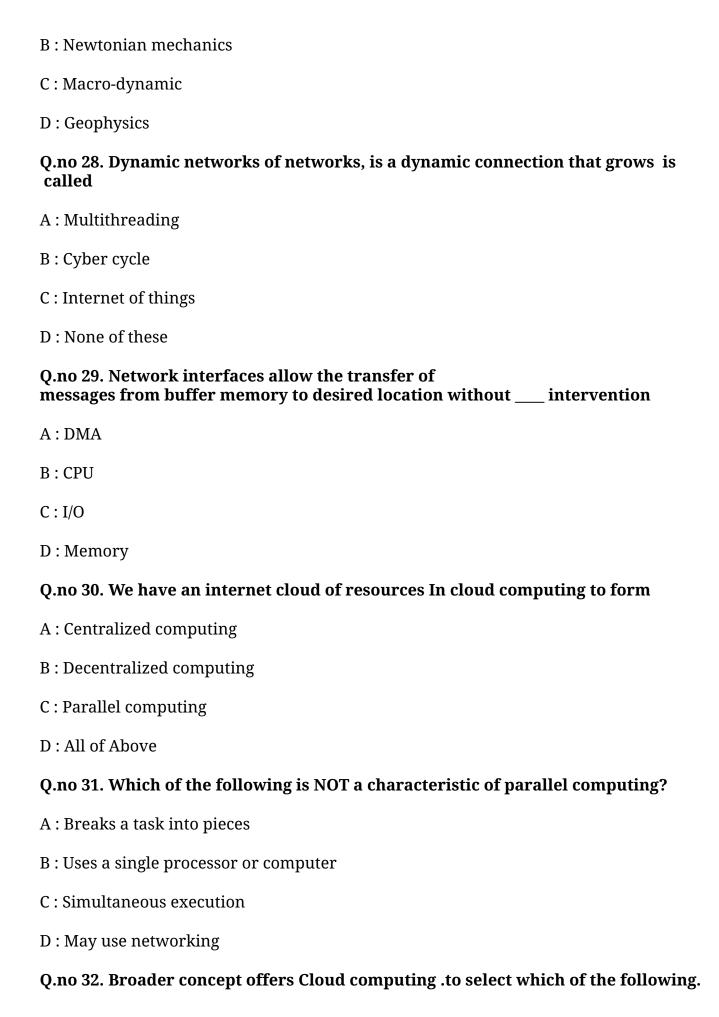
 $C: a synchronous\ paradigm$

Q.no 18. The logical view of a machine supporting the message-passing paradigm consists of p processes, each with its own
A : Partitioned Address space
B : Exclusive address space
C : Logical Adress Space
D : Non shared Adress Space
Q.no 19. Depth First Search is equivalent to which of the traversal in the Binary Trees?
A : Pre-order Traversal
B : Post-order Traversal
C : Level-order Traversal
D : In-order Traversal
Q.no 20. The kernel code is dentified by thequalifier with void return type
A:_host_
B:global
C:_device_
D: void
Q.no 21. MIPS stands for?
A : Mandatory Instructions/sec
B : Millions of Instructions/sec
C: Most of Instructions/sec
D : Many Instructions / sec
Q.no 22. Calling a kernel is typically referred to as
A : kernel thread
B : kernel initialization

D : synchronous paradigm

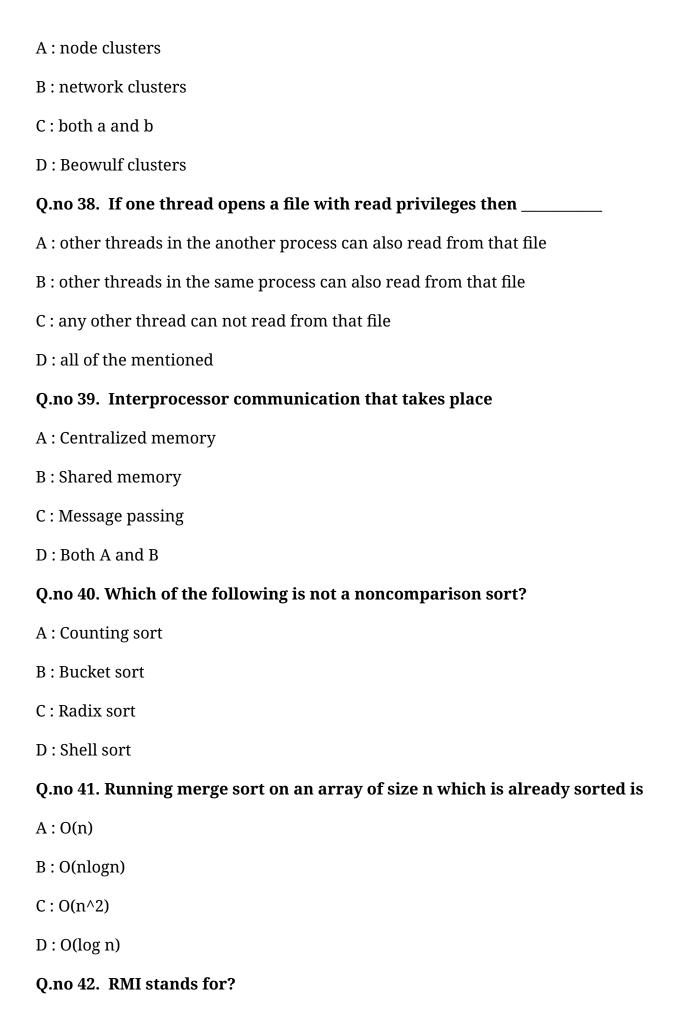
D : kernel invocation
Q.no 23. The time complexity of a quick sort algorithm which makes use of median, found by an O(n) algorithm, as pivot element is
A: O(n^2)
B: O(nlogn)
C: O(nlog(log(n))
D: O(n)
Q.no 24. Several instructions execution simultaneously in
A: processing
B: parallel processing
C : serial processing
D : multitasking
Q.no 25. The decomposition technique in which the input is divided is called as $\underline{\hspace{1cm}}$
A : Data Decomposition
B : Recursive Decomposition
C : Speculative Decomposition
D : Exploratory Decomposition
Q.no 26. Time complexity of bubble sort in best case is
$A:\theta$ (n)
$B:\theta$ (nlogn)
$C : \theta (n^2)$
$D:\theta (n(logn)^2)$
Q.no 27. Nanoscience can be studied with the help of
A : Quantum mechanics

C: kernel termination



A : Parallel computing
B : Centralized computing
C: Utility computing
D : Decentralized computing
Q.no 33. A process can be
A : single threaded
B: multithreaded
C : both single threaded and multithreaded
D : none of the mentioned
Q.no 34. Message passing system allows processes to
A: communicate with one another without resorting to shared data
B : communicate with one another by resorting to shared data
C: share data
D : name the recipient or sender of the message
Q.no 35. It is speed and latency.
A: High, high
B: Low, low
C: High, low
D: Low, high
Q.no 36. If the given input array is sorted or nearly sorted, which of the following algorithm gives the best performance?
A: Insertion sort
B : Selection sort
C: Bubble sort
D : Merge sort

Q.no 37. High performance computing of the computer system tasks are done by



A : Remote Mail InvocationRemote Message Invocation
B : Remaining Method Invention
C : Remaining Method Invocation
D : Remote Method Invocation
Q.no 43. The time required to create a new thread in an existing process is
A : greater than the time required to create a new process
B : less than the time required to create a new process
C : equal to the time required to create a new process
D : none of the mentioned
Q.no 44. Which of the ceramic components are easier through nano structuring?
A: Lubrication
B: Coating
C: Fabrication
D: Wear
Q.no 45. Parallel computing uses execution
A: sequential
B: unique
C: simultaneous
D : none of the answers is correct
Q.no 46leads to concurrency.
A : Serialization
B: Parallelism
C : Serial processing
D : Distribution
Q.no 47. When the event for which a thread is blocked occurs?

A: thread moves to the ready queue

B: thread remains blocked

C: thread completes

D: a new thread is provided

Q.no 48. What is Inter process communication?

A : allows processes to communicate and synchronize their actions when using the same address space

B : allows processes to communicate and synchronize their actions without using the same address space

C: allows the processes to only synchronize their actions without communication

D: none of the mentioned

Q.no 49. Writing parallel programs is referred to as

A: Parallel computation

B: Parallel processes

C: Parallel development

D: Parallel programming

Q.no 50. the basic operations in the message-passing programming paradigm are

A: initiate and listen

B: wait and acknoweldge

C: request and reply

D: send and receive

Q.no 51. Which of the following are TRUE for direct communication?

A : A communication link can be associated with N number of process(N = max. number of processes supported by system)

B: A communication link can be associated with exactly two processes

C : Exactly N/2 links exist between each pair of processes(N = max. number of processes supported by system)

Q.no 52. A thread shares its resources(like data section, code section, open files, signals) with
A : other process similar to the one that the thread belongs to
B : other threads that belong to similar processes
C : other threads that belong to the same process
D : all of the mentioned
Q.no 53. One that is not a type of multiprocessor of the computer system is
A: dual core
B: blade server
C : clustered system
D : single core
Q.no 54. The parallelism achieved on the basis of operations is called as
A: Instruction level
B: Thread level
C: Transaction level
D : None of Above
Q.no 55. NVIDIA thought that 'unifying theme' of every forms of parallelism is the
A: CDA thread
B: PTA thread
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Q.no 56. In indirect communication between processes P and Q
A: a) there is another process R to handle and pass on the messages between P and Q
B : there is another machine between the two processes to help communication
C : there is a mailbox to help communication between P and O

D : Exactly two link exists between each pair of processes

Q.no 57. Process synchronization of programs is done by A: input B: output C: operating system D: memory Q.no 58. The management of data flow between computers or devices or between nodes in a network is called A: Flow control B: Data Control C: Data Management D: Flow Management Q.no 59. A thread is also called _____ A: Light Weight Process(LWP) B: Heavy Weight Process(HWP) C: Process D: None of the mentioned Q.no 60. The parallelism achieved on the basis of conditions is called as A: Instruction level B: Thread level C: Transaction level D: None of Above

D: none of the mentioned

Answer for Question No 1. is c
Answer for Question No 2. is c
Answer for Question No 3. is c
Answer for Question No 4. is a
Answer for Question No 5. is d
Answer for Question No 6. is b
Answer for Question No 7. is b
Answer for Question No 8. is a
Answer for Question No 9. is c
Answer for Question No 10. is c
Answer for Question No 11. is a
Answer for Question No 12. is d
Answer for Question No 13. is d
Answer for Question No 14. is b
Answer for Question No 15. is d
Answer for Question No 16. is d

Answer for Question No 17. is c
Answer for Question No 18. is b
Answer for Question No 19. is a
Answer for Question No 20. is b
Answer for Question No 21. is b
Answer for Question No 22. is d
Answer for Question No 23. is b
Answer for Question No 24. is b
Answer for Question No 25. is a
Answer for Question No 26. is a
Answer for Question No 27. is a
Answer for Question No 28. is c
Answer for Question No 29. is b
Answer for Question No 30. is d
Answer for Question No 31. is a
Answer for Question No 32. is c

Answer for Question No	33. is c	
Answer for Question No	34. is a	
Answer for Question No	35. is c	
Answer for Question No	36. is b	
Answer for Question No	37. is d	
Answer for Question No	38. is b	
Answer for Question No	39. is d	
Answer for Question No	40. is d	
Answer for Question No	41. is b	
Answer for Question No	42. is d	
Answer for Question No	43. is b	
Answer for Question No	44. is c	
Answer for Question No	45. is c	
Answer for Question No	46. is b	
Answer for Question No	47. is a	
Answer for Question No	48. is b	

Answer for Question No 49. is d
Answer for Question No 50. is d
Answer for Question No 51. is b
Answer for Question No 52. is c
Answer for Question No 53. is d
Answer for Question No 54. is c
Answer for Question No 55. is c
Answer for Question No 56. is c
Answer for Question No 57. is c
Answer for Question No 58. is a
Answer for Question No 59. is a
Answer for Question No 60. is b

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11342_High Performance Computing

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Q.no 1. In only one process at a time is allowed into its critical section, among all processes that have critical sections for the same resource.

A: Mutual Exclusion

B: Synchronization

C: Deadlock

D: Starvation

Q.no 2. Following is not mapping technique

A : Static Mapping

B: Dynamic Mapping

C: Hybrid Mapping

D: All of Above

Q.no 3. Depth First Search is equivalent to which of the traversal in the Binary Trees?

A: Pre-order Traversal

B: Post-order Traversal

C: Level-order Traversal

D: In-order Traversal

Q.no 4. Which of the following is a stable sorting algorithm?

A: Merge sort

B: Typical in-place quick sort

C: Heap sort

D: Selection sort

Q.no 5. Most message-passing programs are written using

A: the single program multiple data (SPMD) model.

B: the multiple program and single data(MPSD) model

C: the single program single data (SPSD) model

D : the Multiple program multiple data (SPMD) model

Q.no 6. The time complexity of heap sort in worst case is

A:O(log n)

B:O(n)

C: O(nlogn)

 $D: O(n^2)$

Q.no 7. Which of the following is not an application of Depth First Search?

A : For generating topological sort of a graph

B: For generating Strongly Connected Components of a directed graph

C: Detecting cycles in the graph

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Q.no 8. The time complexity of a quick sort algorithm which makes use of median, found by an O(n) algorithm, as pivot element is

A: O(n^2)
B: O(nlogn)
C: O(nlog(log(n))
D: O(n)
Q.no 9. Type of HPC applications of
A : Management
B : Media mass
C: Business
D : Science
Q.no 10. MIPS stands for?
A : Mandatory Instructions/sec
B : Millions of Instructions/sec
C: Most of Instructions/sec
D : Many Instructions / sec
Q.no 11. The decomposition technique in which the function is used several number of times is called as
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A : Finding shortest path between two nodes
B : Finding bipartiteness of a graph
C : GPS navigation system

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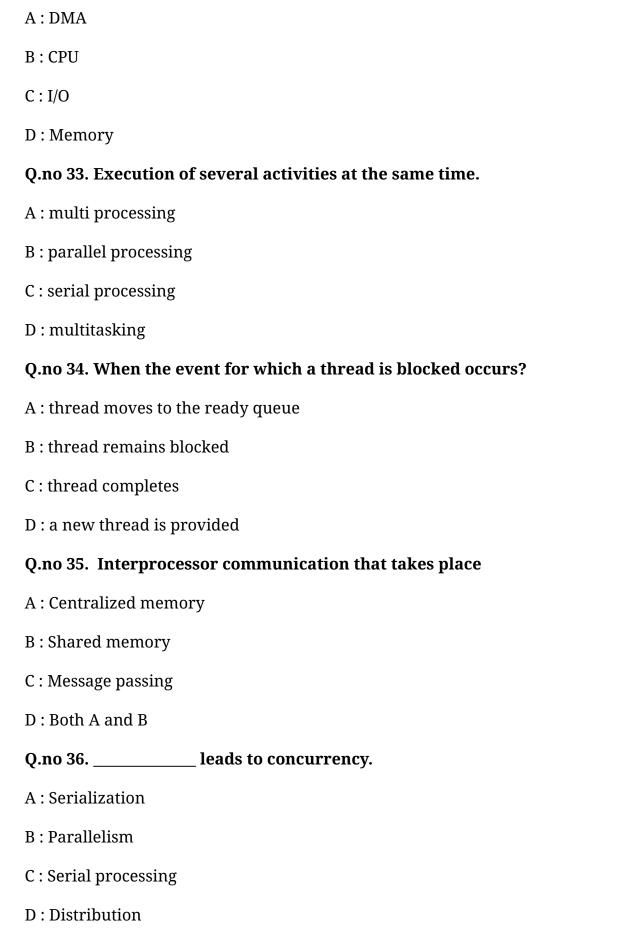
D: Path Finding

B: stack

D : none of the mentioned
Q.no 18. How many Attibutes required to characterize messsage passing paragdigm
A:2
B:4
C:6
D:8
Q.no 19. Which of the following is not a stable sorting algorithm?
A: Insertion sort
B : Selection sort
C: Bubble sort
D : Merge sort
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A : Dividing Problem statement
B : Dividing no of processors
C : Dividing number of tasks
D : Dividing number of operation
Q.no 22. Calling a kernel is typically referred to as
A : kernel thread
B · kernel initialization

C: both program counter and stack

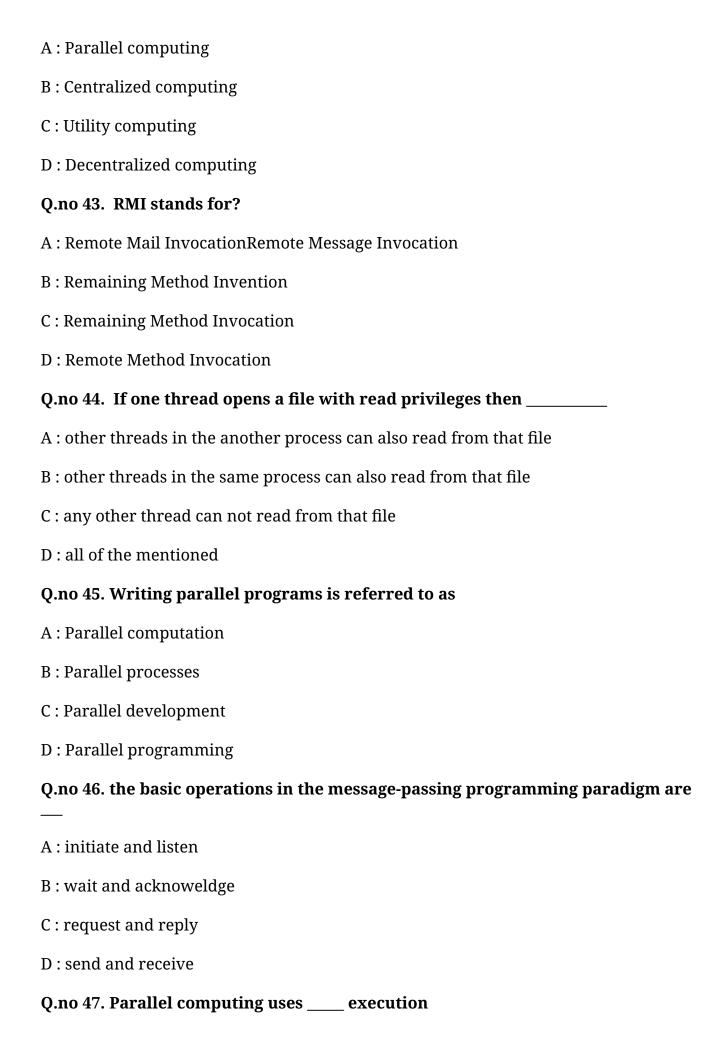
C: kernel termination
D : kernel invocation
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A : Selection sort
B: Heap sort
C : Quick Sort
D : Merge sort
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A:_host_
B:_global
C:_device_
D: void
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A: communicate with one another without resorting to shared data
B : communicate with one another by resorting to shared data
C : share data
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Q.no 27. It is speed and latency.
A : High, high
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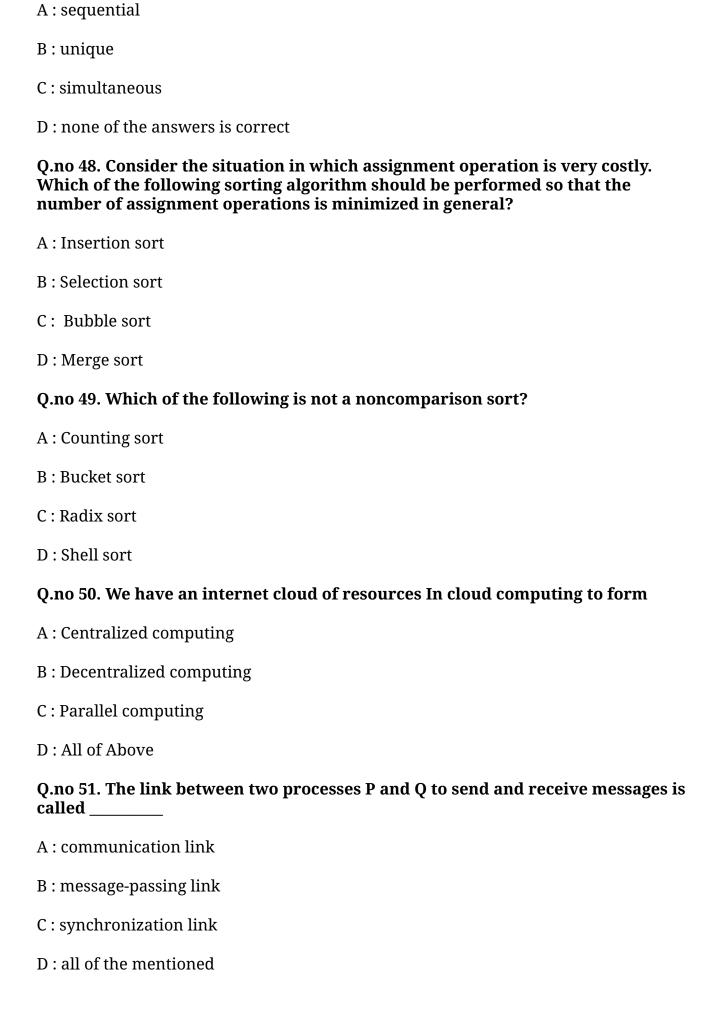


Q.no 37. High performance computing of the computer system tasks are done by

A : node clusters
B: network clusters
C: both a and b
D : Beowulf clusters
Q.no 38. The network topology used for interconnection network.
A: Bus based
B: Mesh
C : Linear Array
D : All of above
Q.no 39 are major issues with non-buffered blocking sends
A : concurrent and mutual exclsion
B : Idling and deadlocks
C: synchronization
D : scheduling
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A : greater than the time required to create a new process
B: less than the time required to create a new process
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A : single threaded
B: multithreaded
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Q.no 42. Broader concept offers Cloud computing .to select which of the following.





A: input B: output C: operating system D: memory Q.no 53. One that is not a type of multiprocessor of the computer system is A: dual core B: blade server C: clustered system D : single core Q.no 54. A thread shares its resources(like data section, code section, open files, signals) with A: other process similar to the one that the thread belongs to B: other threads that belong to similar processes C: other threads that belong to the same process D: all of the mentioned Q.no 55. NVIDIA thought that 'unifying theme' of every forms of parallelism is the A: CDA thread B: PTA thread C: CUDA thread D: CUD thread Q.no 56. Termination of the process terminates _____ A : first thread of the process B: first two threads of the process C: all threads within the process

Q.no 52. Process synchronization of programs is done by

D : no thread within the process

A : Counting sort
B: Bucket sort
C: Radix sort
D : Quick sort
Q.no 58. Which of the following two operations are provided by the IPC facility?
A : write & delete message
B : delete & receive message
C : send & delete message
D : receive & send message
Q.no 59. In indirect communication between processes P and Q
A: a) there is another process R to handle and pass on the messages between P and Q
B : there is another machine between the two processes to help communication
C : there is a mailbox to help communication between P and Q
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Q.no 60. Octa-core processor are the processors of the computer system that contains
A: 2 processors
B: 4 processors
C: 6 processors
D: 8 processors

Q.no 57. Given a number of elements in the range [0....n^3]. which of the following sorting algorithms can sort them in O(n) time?

Answer for Question No 1. is a
Answer for Question No 2. is d
Answer for Question No 3. is a
Answer for Question No 4. is a
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Answer for Question No 6. is c
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Answer for Question No 19. is b
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Answer for Question No 21. is a
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Answer for Question No 23. is a
Answer for Question No 24. is d
Answer for Question No 25. is b
Answer for Question No 26. is a
Answer for Question No 27. is c
Answer for Question No 28. is b
Answer for Question No 29. is b
Answer for Question No 30. is a
Answer for Question No 31. is b
Answer for Question No 32. is b

Answer for Question No 3	33. is b
Answer for Question No 3	34. is a
Answer for Question No 3	25. is d
Answer for Question No 3	86. is b
Answer for Question No 3	87. is d
Answer for Question No 3	88. is d
Answer for Question No 3	99. is b
Answer for Question No 4	0. is b
Answer for Question No 4	1. is c
Answer for Question No 4	22. is c
Answer for Question No 4	3. is d
Answer for Question No 4	4. is b
Answer for Question No 4	5. is d
Answer for Question No 4	e6. is d
Answer for Question No 4	7. is c
Answer for Question No 4	8. is b

Answer for Question No 49. is d
Answer for Question No 50. is d
Answer for Question No 51. is a
Answer for Question No 52. is c
Answer for Question No 53. is d
Answer for Question No 54. is c
Answer for Question No 55. is c
Answer for Question No 56. is c
Answer for Question No 57. is c
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Answer for Question No 59. is c
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11342_High Performance Computing

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B:O(n)

C: O(nlogn)

 $D: O(n^2)$

Q.no 8. The logical view of a machine supporting the message-passing paradigm consists of p processes, each with its own _____

A: Partitioned Address space

B: Exclusive address space

C: Logical Adress Space

D: Non shared Adress Space

Q.no 9. Which of the following is not an in-place sorting algorithm?

A: Selection sort

B: Heap sort

C: Quick Sort

D: Merge sort

Q.no 10. Type of HPC applications of

A: Management

B: Media mass

C: Business

D: Science

Q.no 11. Following is not decomposition technique

A: Data Decomposition

B: Recursive Decomposition

C: Serial Decomposition

D : Exploratory Decomposition

Q.no 12. Following is not mapping technique

A: Static Mapping

B: Dynamic Mapping

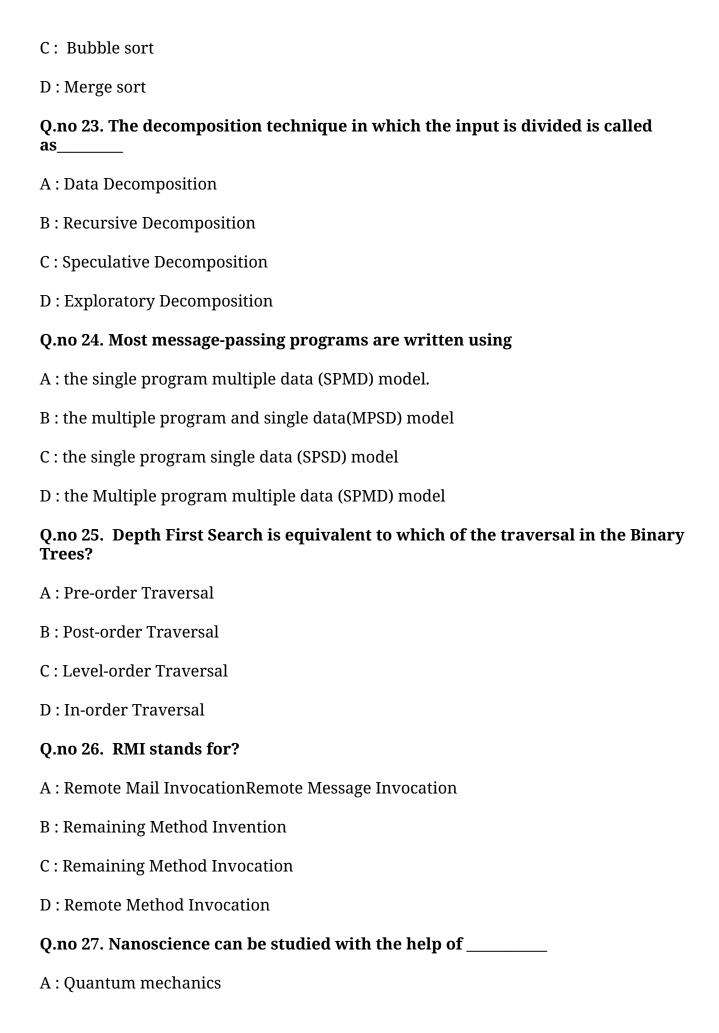
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B: kernel initialization

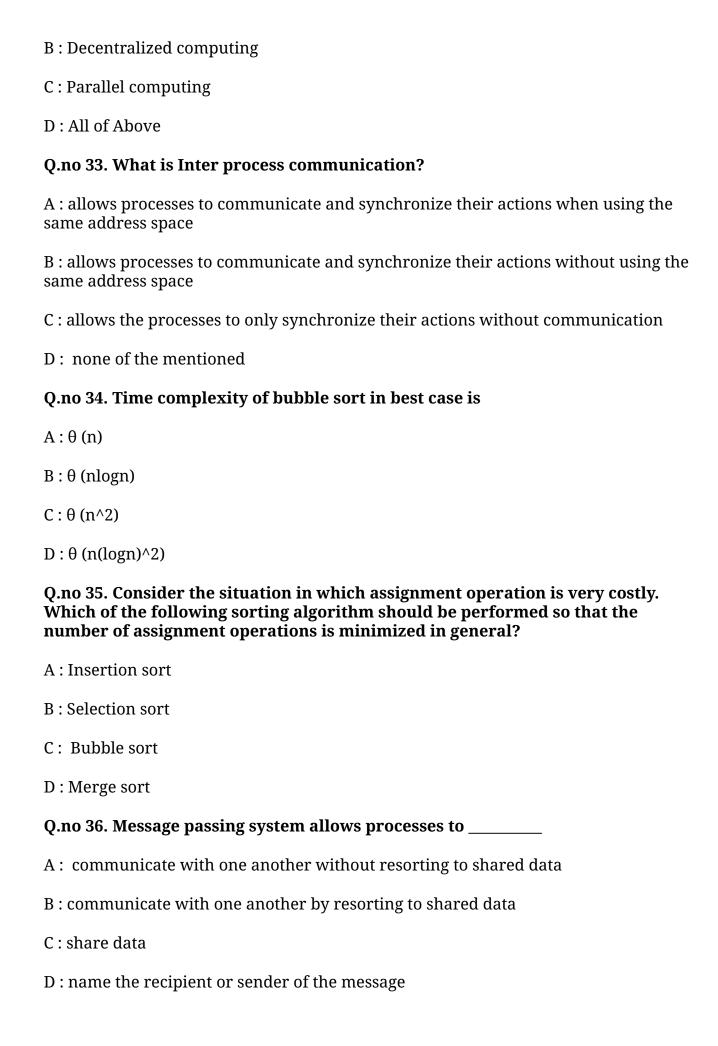
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B : Newtonian mecha	HHCS	
C : Macro-dynamic		
D : Geophysics		
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A : High, high		
B: Low, low		
C : High, low		
D : Low, high		
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A : single threaded		
B : multithreaded		
C: both single thread	led and multithreade	ed.
D : none of the menti	oned	
Q.no 30. If one thre	ad opens a file with	read privileges then
A: other threads in the	he another process ca	an also read from that file
B: other threads in the	ne same process can	also read from that file
C: any other thread o	can not read from tha	at file
D : all of the mention	ed	
Q.no 31. Which of th	ie ceramic compone	ents are easier through nano structuring
A : Lubrication		
B : Coating		
C : Fabrication		
D : Wear		
Q.no 32. We have an	internet cloud of re	esources In cloud computing to form

A : Centralized computing



Q.no 37	_ leads to concurrency.
A : Serialization	
B : Parallelism	
C : Serial processing	
D : Distribution	
Q.no 38. High perfor	mance computing of the computer system tasks are done by
A : node clusters	
B : network clusters	
C : both a and b	
D : Beowulf clusters	
Q.no 39. When the ev	ent for which a thread is blocked occurs?
A : thread moves to th	e ready queue
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C : Internet of things	
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D: May use networking Q.no 47. Interprocessor communication that takes place A : Centralized memory B: Shared memory C: Message passing D: Both A and B Q.no 48. Running merge sort on an array of size n which is already sorted is A:O(n)B: O(nlogn) $C: O(n^2)$ D: O(log n) Q.no 49. Which of the following is not a noncomparison sort? A: Counting sort B: Bucket sort C: Radix sort D: Shell sort Q.no 50. The time required to create a new thread in an existing process is A: greater than the time required to create a new process B: less than the time required to create a new process C: equal to the time required to create a new process D: none of the mentioned Q.no 51. Multi-processor systems of the computer system has advantage of A: cost

B: reliability

C: uncertainty

Q.no 52. The parallelism achieved on the basis of operations is called as
A: Instruction level
B: Thread level
C: Transaction level
D : None of Above
Q.no 53. Process synchronization of programs is done by
A: input
B: output
C : operating system
D: memory
Q.no 54. Octa-core processor are the processors of the computer system that contains
A: 2 processors
B: 4 processors
C: 6 processors
D:8 processors
Q.no 55. Thread synchronization is required because
A : all threads of a process share the same address space
B : all threads of a process share the same global variables
C : all threads of a process can share the same files
D : all of the mentioned
Q.no 56. Data access and storage are elements of Job throughput, of
A: Flexibility
B: Adaptation
C: Efficiency

D : scalability

D : Dependability
Q.no 57. Messages sent by a process
A : have to be of a fixed size
B : have to be a variable size
C : can be fixed or variable sized
D : None of the mentioned
Q.no 58. The link between two processes P and Q to send and receive messages is called
A : communication link
B : message-passing link
C : synchronization link
D : all of the mentioned
Q.no 59. Which of the following algorithms has lowest worst case time complexity?
A: Insertion sort
B : Selection sort
C : Quick Sort
D : Heap sort
Q.no 60. The register context and stacks of a thread are deallocated when the thread?
A: terminates
B: blocks
C: unblocks
D: spawns

Answer for Question No 1. is c
Answer for Question No 2. is d
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Answer for Question N	o 33. is b		
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Answer for Question N	o 48. is b		

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Answer for Question No 50. is b	
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11342_High Performance Computing

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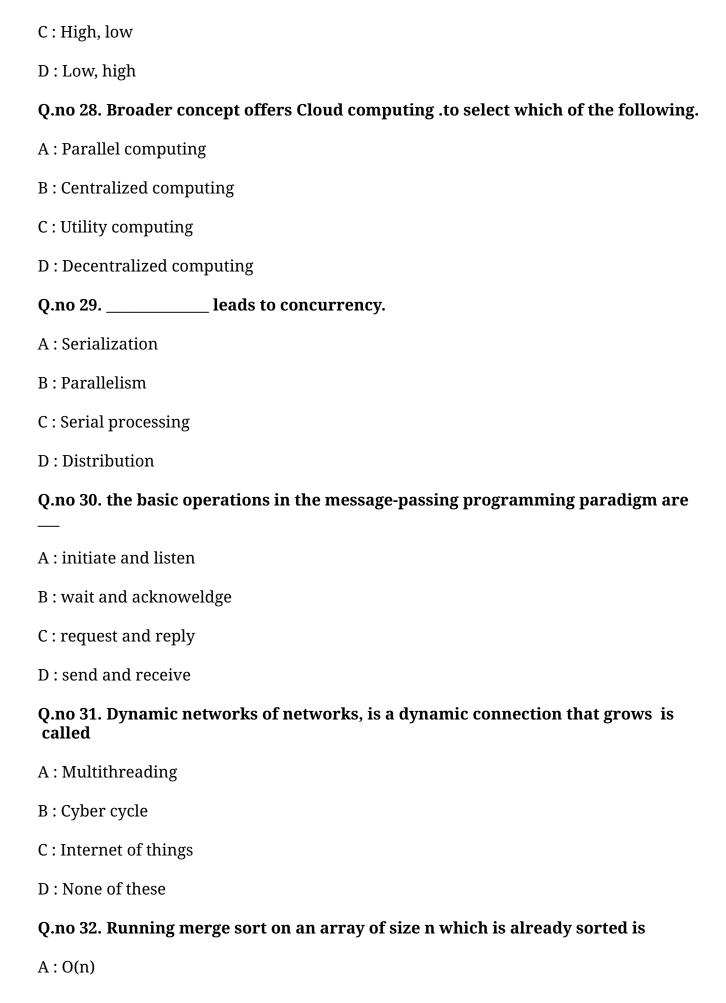
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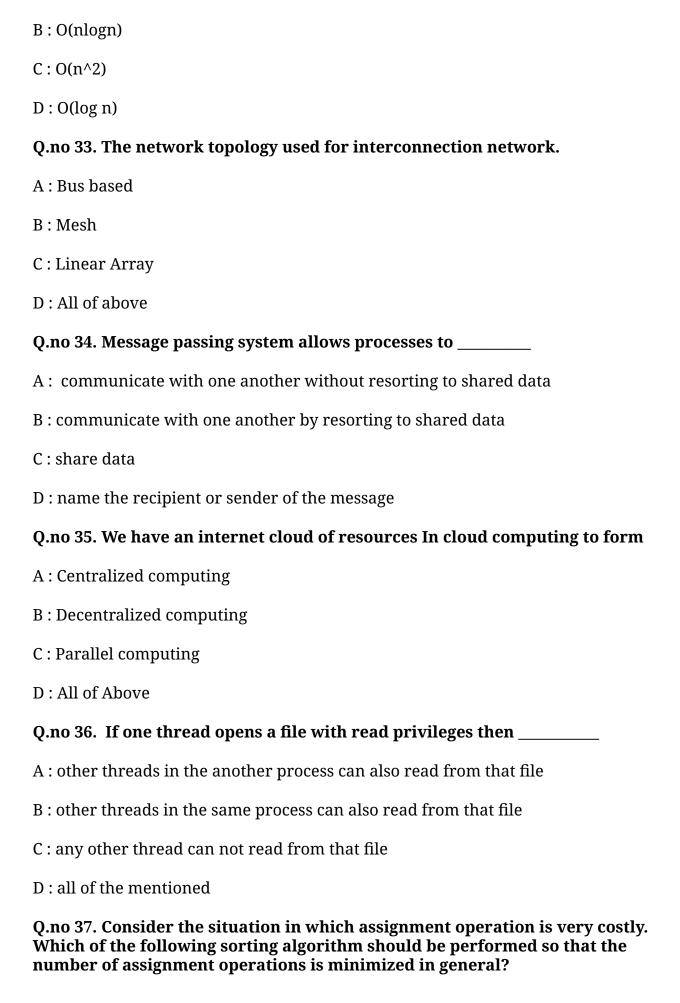
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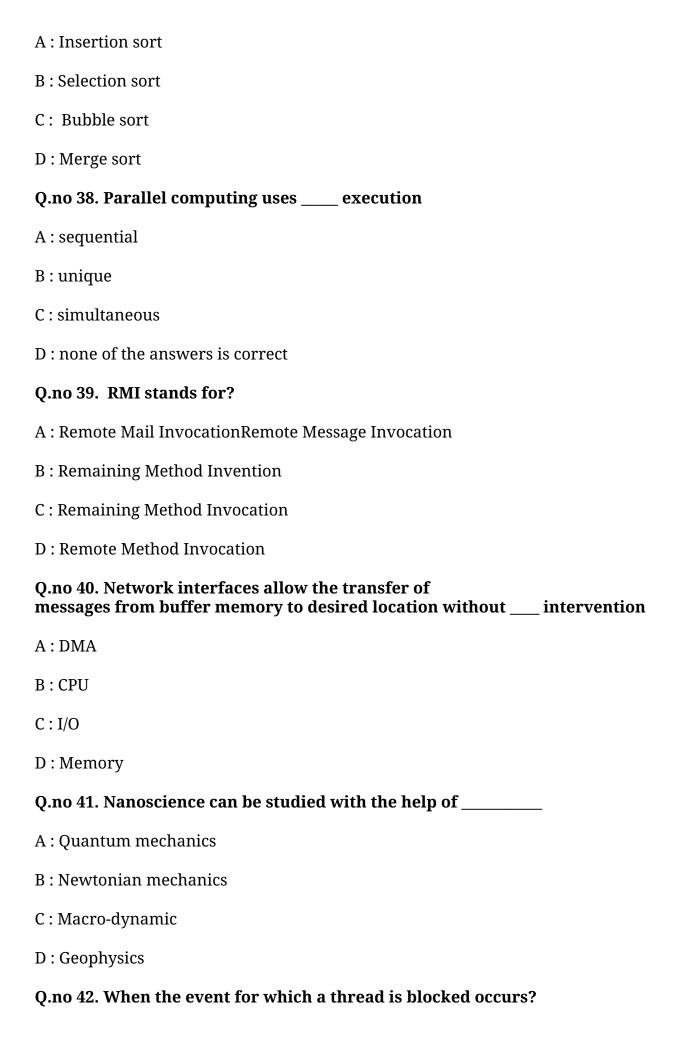
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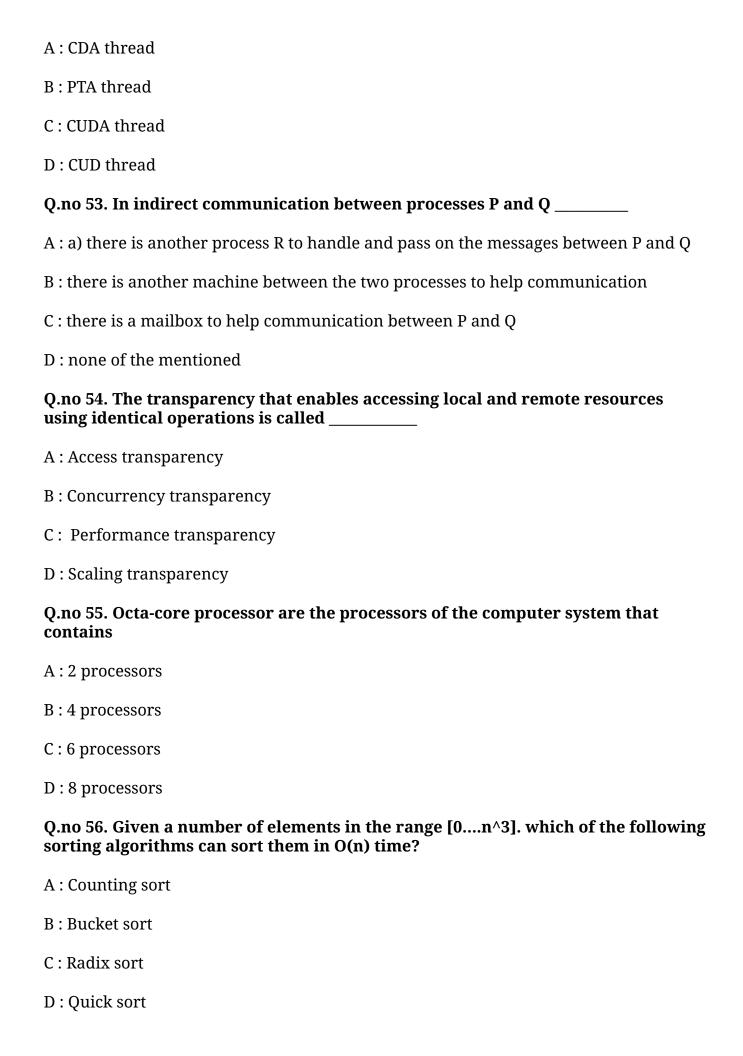
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C: synchronization
D: scheduling
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A: Light Weight Process(LWP)
B: Heavy Weight Process(HWP)
C: Process
D : None of the mentioned

Q.no 52. NVIDIA thought that 'unifying theme' of every forms of parallelism is the

A: multi processing



Q.no 57. Which of the following is not the possible ways of data exchange?
A: Simplex
B: Multiplex
C: Half-duplex
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11342_High Performance Computing

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C: O(nlog(log(n))

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B: the multiple program and single data(MPSD) model

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B: Exclusive address space

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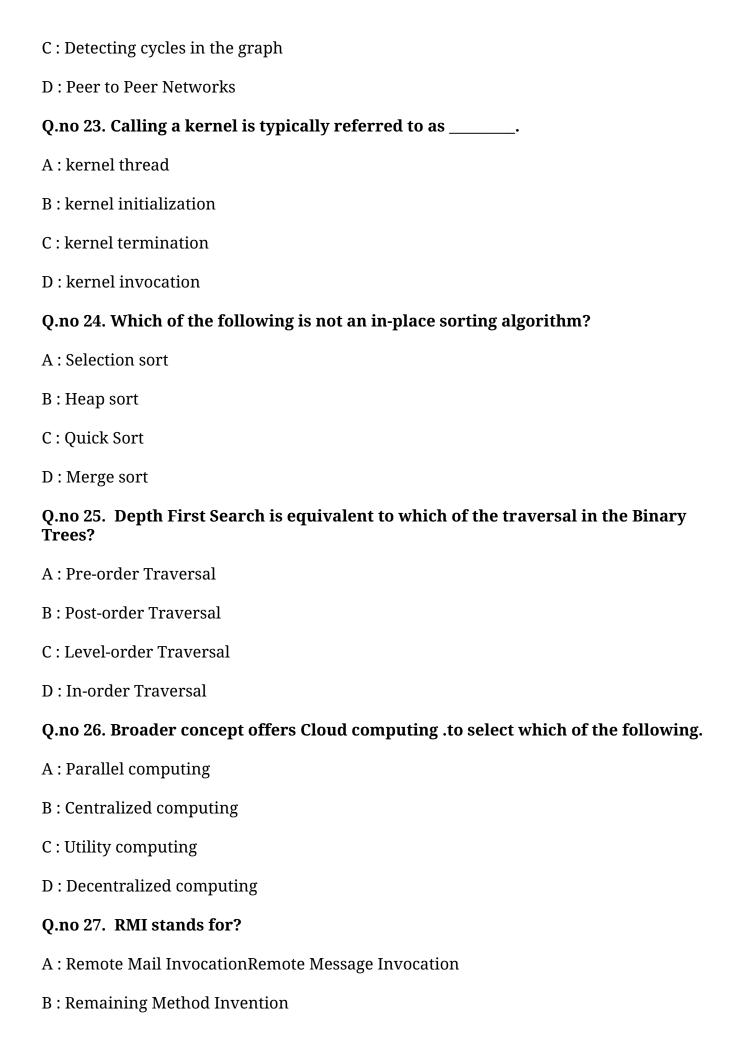
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B : Media mass
C : Business
D : Science
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B:_global_
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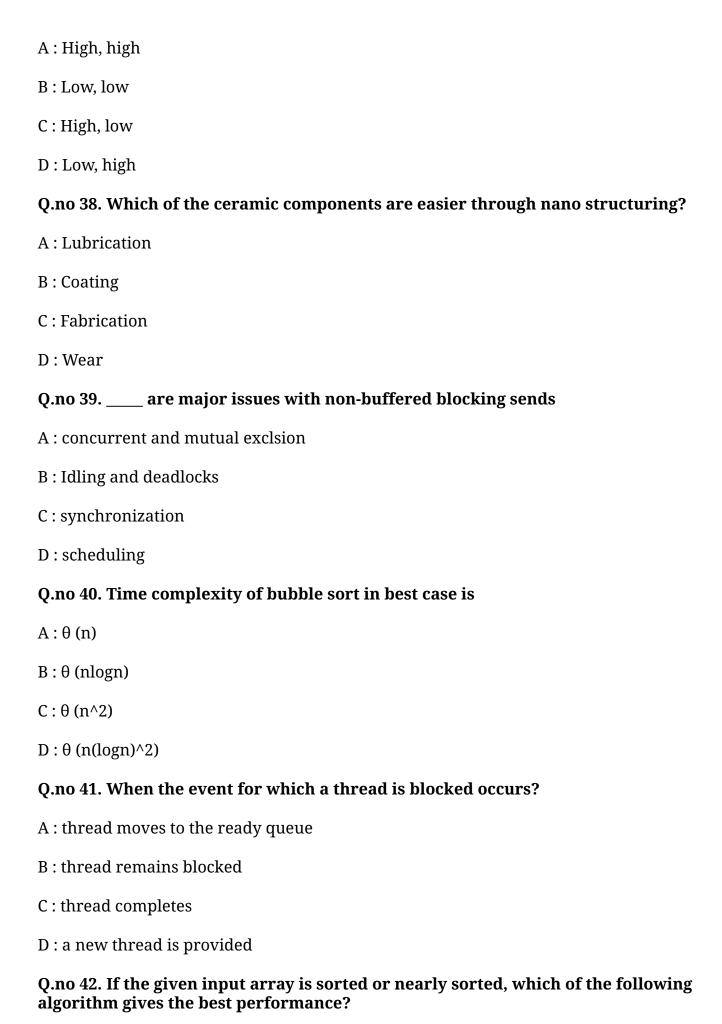
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A: DMA
B: CPU
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A: Insertion sort

B: Selection sort

C: Bubble sort

D: Merge sort

Q.no 43. If one thread opens a file with read privileges then ______

A: other threads in the another process can also read from that file

B: other threads in the same process can also read from that file

C: any other thread can not read from that file

D: all of the mentioned

Q.no 44. The network topology used for interconnection network.

A: Bus based

B: Mesh

C: Linear Array

Q.no 45. Execution of several activities at the same time.

A: multi processing

D: All of above

B: parallel processing

C: serial processing

D: multitasking

Q.no 46. What is Inter process communication?

A : allows processes to communicate and synchronize their actions when using the same address space

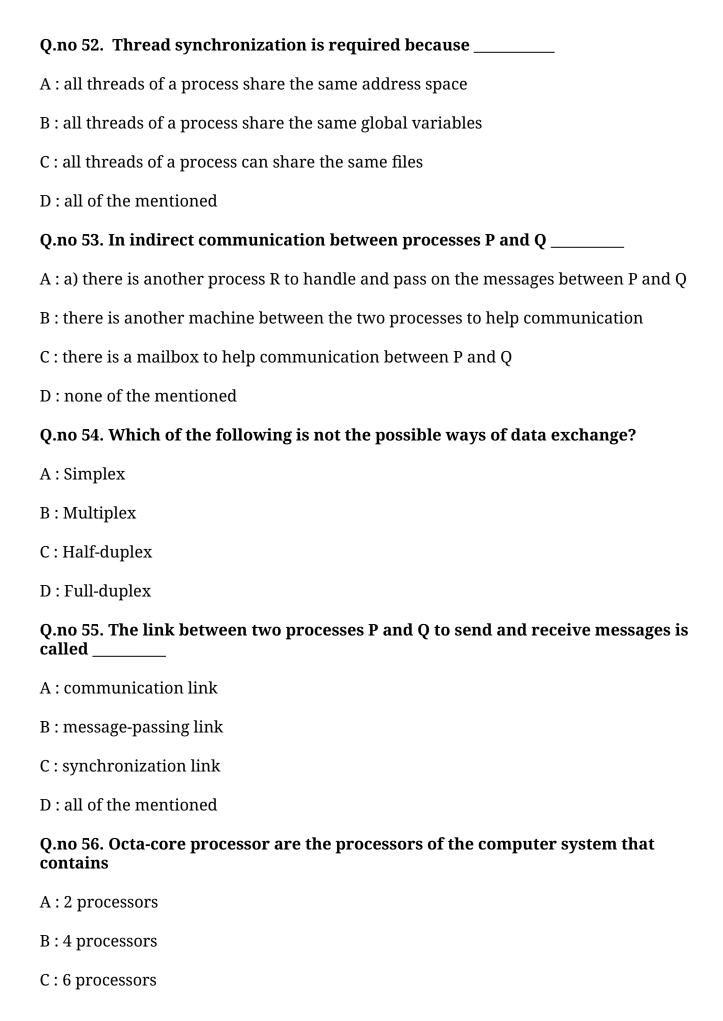
B : allows processes to communicate and synchronize their actions without using the same address space

C: allows the processes to only synchronize their actions without communication

D: none of the mentioned

Q.no 47. Which of the following is not a noncomparison sort? A: Counting sort B: Bucket sort C: Radix sort D: Shell sort Q.no 48. Running merge sort on an array of size n which is already sorted is A:O(n)B: O(nlogn) $C: O(n^2)$ D: O(log n) Q.no 49. Writing parallel programs is referred to as A: Parallel computation B : Parallel processes C: Parallel development D: Parallel programming Q.no 50. Nanoscience can be studied with the help of _____ A: Quantum mechanics B: Newtonian mechanics C: Macro-dynamic D: Geophysics Q.no 51. Given a number of elements in the range [0....n^3]. which of the following sorting algorithms can sort them in O(n) time? A: Counting sort B: Bucket sort C: Radix sort

D: Quick sort



D:8 processors

Answer for Question No 1. is b
Answer for Question No 2. is a
Answer for Question No 3. is d
Answer for Question No 4. is c
Answer for Question No 5. is a
Answer for Question No 6. is a
Answer for Question No 7. is c
Answer for Question No 8. is b
Answer for Question No 9. is b
Answer for Question No 10. is c
Answer for Question No 11. is a
Answer for Question No 12. is d
Answer for Question No 13. is b
Answer for Question No 14. is c
Answer for Question No 15. is c
Answer for Question No 16. is b

Answer for Question No 17. is c
Answer for Question No 18. is a
Answer for Question No 19. is d
Answer for Question No 20. is b
Answer for Question No 21. is b
Answer for Question No 22. is d
Answer for Question No 23. is d
Answer for Question No 24. is d
Answer for Question No 25. is a
Answer for Question No 26. is c
Answer for Question No 27. is d
Answer for Question No 28. is c
Answer for Question No 29. is d
Answer for Question No 30. is a
Answer for Question No 31. is c
Answer for Question No 32. is c

Answer for Question No 33. is b
Answer for Question No 34. is d
Answer for Question No 35. is a
Answer for Question No 36. is b
Answer for Question No 37. is c
Answer for Question No 38. is c
Answer for Question No 39. is b
Answer for Question No 40. is a
Answer for Question No 41. is a
Answer for Question No 42. is b
Answer for Question No 43. is b
Answer for Question No 44. is d
Answer for Question No 45. is b
Answer for Question No 46. is b
Answer for Question No 47. is d
Answer for Question No 48. is b

Answer for Question No 49. is d
Answer for Question No 50. is a
Answer for Question No 51. is c
Answer for Question No 52. is d
Answer for Question No 53. is c
Answer for Question No 54. is b
Answer for Question No 55. is a
Answer for Question No 56. is d
Answer for Question No 57. is b
Answer for Question No 58. is c
Answer for Question No 59. is a
Answer for Question No 60. is c