	marks	question	A	B	C	D	ans
0	1	Interconnection Networks can be classified as?	Both	Dynamic	Static	Direct Network	Both Static and Dynamic.
1	1	Parallel Computers are used to solve which types of problems.	Both	Algorithmic Problems	Optimization Problems	None	This is an explaination.
2	1	How many clocks control all the stages in a pipeline?	One	Three	Four	Five	One clock Is used to control all the stages.
3	1	Main memory in parallel computing is_____?	Shared	Parallel	Fixed	None	Main memory is shared in parallel computing.
4	1	Which of these is not a class of parallel computing architetcture?	Application Checkpointing	Distributed Computing	Symmetric Multiprocessing	Multicore Computing	Ans- (d)- Application checkpoiting. is not a class of parallel computer architecture.
5	1	Parallel Computing software solutions and Techniques includes:	All	Automatic Parallelization	Parallel Programming languages.	Application Checkpointing	Parallel computing software solutionincludes all of the following.. This is an explanation
6	2	The Processors are connected to the memory through a set of?	Switches	Cables	Buses	Registers	The Processors are connected thru. the switches.
7	2	Superscalar Architetcure has how many execution units?	Two	One	Three	Four	This is an explaination.
8	2	What is used to hold the intermediate output in a pipeline	Intermediate Register	Cache	RAM	ROM	The Intermediate Registers are used to hold the output.
9	2	Which oranization performs sequencing of Human Genome?	International Human Genome Sequencing and Consortium	International Sequencing and Consortium for Human Genome	Human Genome Sequencing and Constrium, Org.	Genome Sequencing for Humans and Consortium, Org.	This is an explaination.
10	2	There are how many stages in RISC Processor?	Five	Three	Two	Six	Ans(c)- Five stages are there in a RISC processor.
11	2	Over the last decade, The DRAM access time has improved at what rate per year?	0.1	0.2	0.15	None of the above	The DRAM acess time rate has improved at a rate of 10% over the last decade.

	marks	question	A	B	C	D	ans
12	2	Which memory acts as low-latency high bandwidth storage?	Cache	Register	DRAM	EPROM	Cache acts as low latency high bandwidth storage .This is an explanation.
13	2	Which processor architecture is this?	SIMD	MIMD	MISD	MIMD	This is an explaination.
14	2	Which core processor is this?	Quad-Core	Dual-Core	Octa-Core	Single-Core	This diagram shows Quad-Core.
15	2	Which of these is not a scalable design principle?	Data Caching	Decomposition	Simplification	Parsimony	Data Caching is not a prinicple of scable design.
16	2	The distance between any two nodes in Bus Based network is?	O(1)	O(n Logn)	O(N)	O(n^2)	O(1) is the ditance between any two nodes.
17	2	Early SIMD computers include:	All	MPP	CM-2	Illiac IV	All of these are early staged SIMD parallel computers.
18	2	This is which configuration in Omega networks.	Pass-through	Cross-Over	Shuffle	None	This is called Pass-through configuration.
19	2	Automatic Parallelization technique doesn't ncludes:	Share Memory	Analyse	Schedule	Parse	Parallelization includes parse, analyse schedule and code generation.
20	2	The Pentuim 4 or P4 processor has how many stage pipeline?	20	15	18	10	The P4 processor has 20 staged pipeline. This is an explanation.
21	3	Which protocol is not used to remove concurrent writes?	Identify	Priority	Common	Sum	Sum, Prioirity and common are used to remove concurrent writes.
22	3	EREW PRAM stands for?	Exclusive Read and Exclusive Write	Erasable Read and Erasable Write PRAM	Easily Read and Easily Write	None	EREW stands for Exclusive Read and Exclsuive Write PRAM.
23	3	During each clock cycle, multiple instructions are piped into the processor in_____?	Parallel	Series	Both a and b	None	Multiple Instuctiion are piped in parallel. This is an explanation.
24	3	Which Interconnection Network uses this equation.	Multistage Networks	Cross-Bar	Dynamic Networks	Bus-Staged	Multistaged Network uses this eqn.

	marks	question	A	B	C	D	ans
25	3	How many types of parallel computing are available from both proprietary and open source parallel computing vendors?	4	2	3	6	There are generally four types of parallel computing, available from both proprietary and open source parallel computing vendors.
26	3	If a piece of data is repeatedly used, the effective latency of this memory system can be reduced by the cache. The fraction of data references satisfied by the cache is called?	Hit Ratio	Memory ratio	Hit Fraction	Memory Fraction.	If a piece of data is repeatedly used, the effective latency of this memory system can be reduced by the cache. The fraction of data references satisfied by the cache is called the cache hit ratio.
27	3	Superscalar Architetcure can create problem in?	Scheduling	Phasing	Data Extraction	Data-Compiling	SuperScalar Architecture can cause problems in CPU scheduling.
28	3	In cut-through routing, a message is broken into fixed size units called?	Flits	Flow Digits	Control Digits	All	In cut-through routing, a message is broken into fixed size units called flits.
29	3	The total communication time for cut-through routing is?	A	B	C	D	This is an explaination.
30	1	The Disadvantage of GPU Pipeline is?	Load-balancing	Data balancing	Process balancing	All of the above	This is an explaination.
31	1	Examples of GPU Processors are:	Both	AMD Processors	NVIDIA	None	Both AMD and NVIDIA.
32	1	Simultaneous execution of different programs on a data stream is called?	Stream Parallelism	Data Execution	Data-paralleism	None	Simultaneous execution of different programs on a data stream is called Stream Parallelism.
33	1	Early GPU controllers were known as?	Video Shifters	GPU Shifters	GPU Controllers	Video-Movers	This is an Explaination.
34	1	_____development is a critical component of problem solving using computers?	Algorithm	Code	Pseudocode	Problem	Algorithm development is a critical component of problem solving using computers

	marks	question	A	B	C	D	ans
35	1	GPU stands for?	Graphics Processsing Unit	Graphical Processing Unit	Gaming Processing Unit	Graph Processing Unit	This is an Explaination.
36	1	What leads to concurrency?	Parallelism	Serial Processing	Decomposition	All	Parallelism leads naturally to Concurrency. For example, Several processes trying to print a file on a single printer.
37	2	The process of determining which screen-space pixel locations are covered by each\ntriangle is known as?	Rasterization	Pixelisation	Fragmentation	Space-Determining Process	Rasterization is the process of determining which screen-space pixel locations are covered by each\ntriangle.
38	2	The programmable units of the GPU follow which programming model?	SPMD	MISD	MIMD	SIMD	The programmable units of the GPU follow a single program multiple-data (SPMD) programming model.
39	2	Which space can ease the programming effort, especially if the distribution of data is different in different phases of the algorithm?	Shared Address	Parallel Address	Data- Address	Series-Address	Shared Address space can ease the programming effort, especially if the distribution of data is different in different phases of the algorithm.
40	2	Which are the hardware units that physically perform computations?	Processsor	ALU	CPU	CU	Processors are the hardware units that physically perform computations
41	2	Examples of Graphics API are?	All	DirectX	CUDA	Open-CL	All of the these are examples of Graphics API
42	2	The mechanism by which tasks are assigned to processes for execution is called____?	Mapping	Computation	Process	None	The mechanism by which tasks are assigned to processes for execution is called mapping.

	marks	question	A	B	C	D	ans
43	2	A decomposition into a large number of small tasks is called_____ granularity.	Fine- grained	Coarse-grained	Vector-granied	All	A decomposition into a large number of small tasks is called fine-grained granularity.
44	2	Identical operations being applied concurrently on different data items is called?	Data-Parallelism	Parallelism	Data Serialsm	Concurrency	Identical operations being applied concurrently on different data items is called Data Parallelism.
45	2	System which do not have parallel processsing capabiities?	SISD	SIMD	MISD	MIMD	This is the explainantion.
46	2	The time and the location in the program of a static one-way interaction is known as ?	Priori	Polling	Decomposition	Execution	The time and the location in the program of a static one-way interaction is known a priori.
47	2	Memory access in RISC architecture is limited to which instructions?	STA and LDA	CALL and RET	Push and POP	MOV and JMP	This is the explaination.
48	2	Which Algorithms can be implemented in both shared-address-space and message-passing paradigms?	Data-Parallel Algo.	Quick-Sort Algo.	Data Algorithm	Bubble Sort Algo.	Data Parallel algorithms can be implemented in both shared-address-space and message-passing paradigms
49	2	Which type of Distribution is this?	Randomized Block Distribution	Block-Cyclic Distribution	Cyclic Distribution	None	This figure shows Randomized Block Distribution.
50	2	An abstraction used to express such dependencies among tasks and their relative order of execution is known as_____?	Task-Dependency Graph.	Dependency Graph.	Time-Dependency Graph	None	An abstraction used to express such dependencies among tasks and their relative order of execution is known as a task-dependency graph.

	marks	question	A	B	C	D	ans
51	3	Which is the simplest way to distribute an array and assign uniform contiguous portions of the array to different processes?	Block Distrbution	Array Distrbution	Process Distribution	All	Block distributions are some of the simplest ways to distribute an array and assign uniform contiguous portions of the array to different processes
52	3	An example of a decomposition with a regular interaction pattern is?	Image-dethering problem.	Travelling Salesman Problem	Time-complexity Problens	8 Queen problem.	An example of a decomposition with a regular interaction pattern is the problem of image dithering.
53	3	A feature of a task-dependency graph that determines the average degree of concurrency for a given granularity is	Critical-path	Process-path	Granularity.	Concurrency	A feature of a task-dependency graph that determines the average degree of concurrency for a given granularity is critical path.
54	3	The shared-address-space programming paradigms can handle which interactions?	Both	Two way	One way	None	The shared-address-space programming paradigms can handle both one-way and two-way interactions.
55	3	Which distribution can result in an almost perfect load balance due to the extreme fine-grained underlying decomposition.	Cyclic Distribution.	Array Distribution	Block-Cyclic Distribution	Block Distribution.	Cyclic Distribution can result in an almost perfect load balance due to the extreme fine-grained underlying decomposition.
56	3	Data sharing interactions can be categorized as_____interactions?	Both	Read-Write	Read only	None	Data sharing interactions can be categorized as either read-only or read-write interactions

	marks	question	A	B	C	D	ans
57	3	What is the way of structuring a parallel algorithm by selecting a decomposition and mapping technique and applying the appropriate strategy to minimize interactions called?	Algorithm Model	Parallel Model	Data Model	Mapping Model	Algo. Model is a way of structuring a parallel algorithm by selecting a decomposition and mapping technique and applying the appropriate strategy to minimize interactions.
58	3	Which Algorithm is this?	Serial column based Algo.	Column-Algorithm	Bubble Sort Algo.	None.	This is Serial Column based algorithm.
59	3	Algorithms based on the task graph model include:	All	Matrix-Factorization	Parallel QuickSort	Quicksort	This is an Explanation.
60	1	Which model permits simultaneous communication on all the channels connected to a node?	All-port communication	One-port communication	Dual-port communication	Quad-port communication	All-port communication model permits simultaneous communication on all the channels connected to a node.
61	1	A process sends the same m-word message to every other process, but different processes may broadcast different messages. It is called?	All to All Broadcast	One to All Broadcast	All to All Reduction	None	This is an Explaination.
62	1	The Matrix is transposed using which operation?	All to All personalized communication	One-to-all personalized communication	All-to-one personalized communication	One to one personalized communication.	This is an Explaination.
63	1	Each node in a two-dimensional wraparound mesh has how many ports?	Four	Two	Three	One	Each node in a two-dimensional wraparound mesh has four ports
64	1	Circular shift is a member of a broader class of global communication operations known as?	Permutation	Combination.	Both a and b	None	This is ann explaination.
65	1	We define_____ as the operation in which node i sends a data packet to node $(i + q) \bmod p$ in a p-node ensemble $(0 < q < p)$.	Circular q-shift	Linear shift	Circular shift	Linear q-shift.	We define a circular q-shift as the operation in which node i sends a data packet to node $(i + q) \bmod p$ in a p-node ensemble $(0 < q < p)$.

	marks	question	A	B	C	D	ans
66	1	Parallel algorithms often require a single process to send identical data to all other processes or to a subset of them. This operation is known as?	One to All Broadcast	One to One Broadcast	All to One Broadcast	None	Parallel algorithms often require a single process to send identical data to all other processes or to a subset of them. This operation is known as One to All Broadcast.
67	1	In which Communication each node sends a distinct message of size m to every other node?	All to All personalized communication	One to One personalized communication	All-to-one personalized communication	One-to-all personalized communication.	This is an Explaination.
68	1	All to All personalized communication operation is not used in a which of these parallel algorithms?	Quick Sort	Matrix-Transpose	Fourier Transformation	Database Join operation	This is an Explaination.
69	1	The Dual of one-to-all broadcast is?	All to one Reduction	All to one Broadcast	One to Many Reduction	All to All Broadcast	The dual of one to all Broadcast is called all to one reduction.
70	1	Reduction on a linear array can be performed by_____ the direction and the sequence of communication?	Reversing	Forwarding	Escaping	Widening	Reduction on a linear array can be performed by simply reversing the direction and the sequence of communication
71	2	This equation is used to solve which topology operations in all to all communications?	Hypercube	Mesh	Ring	Linear-Array	This is an Explaination.
72	2	\nThe communication pattern of all-to-all broadcast can be used to perform_____?	Third Variation of Reduction	Second Variation of Reduction	First Variation of Reduction	Fifth Variation of Reduction	This is an Explaination.
73	2	A single node sends a unique message of size m to every other node. This operation is known as_____?	Scatter	Reduction	Gather	Concatenate	In the scatter operation, a single node sends a unique message of size m to every other node.
74	2	The Algorithm represents which broadcast?	All to All Broadcast	All to All Broadcast	All to All Reduction	One to One Reduction	This is an explaination.
75	2	The message can be broadcast in how many steps?	Log(p)	Log(p^2)	One	Sin(p)	The message can be broadcast in log p steps.
76	2	This equation is used to solve which operations?	All to All personalized communication	One-to-all personalized communication	One to one personalized communication	All-to-one personalized communication.	This is an Explaination.

	marks	question	A	B	C	D	ans
77	2	There are how many computations for n^2 words of data transferred among the nodes?	N^3	Tan n	E^n	Log n	There are n^3 computations for n^2 words of data transferred among the nodes.
78	2	Scatter Operation is also known as?	One-to-all personalized communication	One-to-one personalized communication	All-to-one personalized communication	All-to-all personalized communication.	Scatter opeartion is also known as One-to-all personalized communication.
79	2	A Hypercube with 2d nodes can be regarded as a d-dimensional mesh with_____ nodes in each dimension.	Two	One	Three	Four	A hypercube with 2d nodes can be regarded as a d-dimensional mesh with two nodes in each dimension
80	2	One-to-all broadcast and all-to-one reduction are used in several important parallel algorithms including?	All	Gausiian Elimination	Shortest path Algo.	Matrix- Vector multiplication	This is an Explaination.
81	2	Each node of the distributed-memory parallel computer is a_____ shared-memory multiprocessor.	NUMA	UMA	CCMA	None	Each node of the distributed-memory parallel computer is a NUMA shared-memory multiprocessor.
82	2	To perform a q-shift, we expand q as a sum of distinct powers of_____?	2	3	e	Log p	To perform a q-shift, we expand q as a sum of distinct powers of 2 .
83	3	In which implementation of circular shift, the entire row to data set is shifted by	Mesh	Hypercube	Ring	Linear	This is an Explaination
84	3	On a p-node hypercube with all-port communication, the coefficients of tw in the expressions for the communication times of one-to-all and all-to-all broadcast and personalized communication are all smaller than their single-port counterparts by a factor of?	Log(p)	Cos(p)	Sin(p)	E^p	On a p-node hypercube with all-port communication, the coefficients of tw in the expressions for the communication times of one-to-all and all-to-all broadcast and personalized communication are all smaller than their single-port counterparts by a factor of log p.

	marks	question	A	B	C	D	ans
85	3	The Equation represents which analysis in All to All Broadcasts?	Cost Analysis	Time Analysis	Data Model Analysis	Space-Time Analysis	Ans-(c) Cost Analysis.
86	3	On a p-node hypercube, the size of each message exchanged in the i th of the log p steps is?	A	B	C	D	A
87	3	Which broadcast is applied on this 3D hypercube?	One to All Broadcast	One to One Broadcast	All to One Broadcast	All to one Reduction	This figure shows One to All Broadcast being applied on 3D hypercube.
88	3	The Equation represents which analysis in One to All Broadcasts?	Cost Analysis	Time Analysis	Data Analysis	Space Analysis	This is an explaination.
89	3	The time for circular shift on a hypercube can be improved by almost a factor of _____ for large messages.	Log p	Cos(p)	e^p	Sin p	The time for circular shift on a hypercube can be improved by almost a factor of log p for large messages.
90	1	The execution time of parallel algorithm doesnâ€™t depends upon?	Processor	Input Size	Relative computation	Communication speed	The execution time of a parallel algorithm depends not only on input size but also on the number of processing elements used, and their relative computation and interprocess communication speeds.
91	1	Processing elements in a parallel system may become idle due to many reasons such as:	Both	Synchronization	Load Imbalance	The processing element doesnâ€™t become idle.	Both synchronization and load imbalance
92	1	If the scaled-speedup curve is close to linear with respect to the number of processing elements, then the parallel system is considered as?	Scalable	Iso-scalable	Non-Scalable	Scale-Efficient	If the scaled-speedup curve is close to linear with respect to the number of processing elements, then the parallel system is considered scalable

	marks	question	A	B	C	D	ans
93	1	Which system is the combination of an algorithm and the parallel architecture on which it is implemented?	Parallel System	Data- Parallel System	Architecture System	Series System	A parallel system is the combination of an algorithm and the parallel architecture on which it is implemented
94	1	What is defined as the speedup obtained when the problem size is increased linearly with the number of processing elements?	Scalable Speedup	Unscalable Speedup	Superlinearity Speedup	Isoefficiency Speedup	Scalable Speedup defined as the speedup obtained when the problem size is increased linearly with the number of processing elements
95	1	The maximum number of tasks that can be executed simultaneously at any time in a parallel algorithm is called its degree of_____.	Concurrency	Parallelism	Linearity	Execution	The maximum number of tasks that can be executed simultaneously at any time in a parallel algorithm is called its degree of concurrency.
96	1	The isoefficiency due to concurrency in 2-D partitioning is:	O(p)	O(n Logp)	O(1)	O(n^2)	This is an explaination.
97	2	The total time collectively spent by all the processing elements over and above that required by the fastest known sequential algorithm for solving the same problem on a single processing element is known as?	Total Overhead	Overhead	Serial Runtime	Parallel Runtime	We define total overhead of a parallel system as the total time collectively spent by all the processing elements over and above that required by the fastest known sequential algorithm for solving the same problem on a single processing element.
98	2	Parallel computations involving matrices and vectors readily lend themselves to data _____.	Decomposition	Composition	Linearity	Parallelsim	Parallel computations involving\nmatrices and vectors readily lend themselves to data decomposition.

	marks	question	A	B	C	D	ans
99	2	Parallel 1-D with Pipelining is a_____ algorithm?	Synchronous	Asynchronous	Optimal	Cost-optimal	This is an explanation.
100	2	The serial complexity of Matrix-Matrix Multiplication is:	Õ•(n^3)	O(n^2)	O(n)	O(nlogn)	This is an explanation
101	2	What is the problem size for n x n matrix multiplication?	Ï′(n^3)	Ï′(nlogn)	Ï′(n^2)	Ï′(1)	Ï′(n^3) is the problem size.
102	2	The given equation represents which function?	Overhead Function	Parallel Model	Series Overtime	Parallel Overtime	This is an explaination.
103	2	The efficiency of a parallel program can be written as:	A	B	C	D	A
104	2	The total number of steps in the entire pipelined procedure is_____?	Î˜(n)	Î˜(n^2)	Î˜(n^3)	Î˜(1)	The total number of steps in the entire pipelined procedure is Î˜(n)
105	2	In Canon's Algorithm, the memory used is?	Î‚(n^2)	Î‚(n)	Î‚(n^3)	Î‚(nlogn)	This is an explaination.
106	2	Consider the problem of multiplying two n Ã— n dense, square\nmatrices A and B to yield the product matrix C =:	AÃ—B	A/B	A+B	A-B	Consider the problem of multiplying two n Ã— n dense, square\nmatrices A and B to yield the product matrix C = A Ã— B.
107	2	The serial runtime of multiplying a matrix of dimension n x n with a vector is?	A	B	C	D	A
108	2	_____is a measure of the fraction of time for which a processing element is usefully employed.	Efficiency	Linearity	Overtime Function	Superlinearity	Efficiency is a measure of the fraction of time for which a processing element is usefully employed.
109	2	When the work performed by a serial algorithm is greater than its parallel formulation or due to hardware features that put the serial implementation at a disadvantage.This phenomena is known as?	Superlinear Speedup	Linear Speedups	Super Linearity	Performance Metrics	This is an explaintion
110	3	The all-to-all broadcast and the computation of y[i] both take time?	Î˜(n)	Î˜(nlogn)	Î˜(n^2)	Î˜(n^3)	This is an explaination.

	marks	question	A	B	C	D	ans
111	3	If virtual processing elements are mapped appropriately onto physical processing elements, the overall communication time does not grow by more than a factor of	N/p	P/n	N+p	N*p	If virtual processing elements are mapped appropriately onto physical processing elements, the overall communication time does not grow by more than a factor of n/p
112	3	Parallel execution time can be expressed as a function of problem size, overhead function, and the number of processing elements.The Formed eqn is:	A	B	C	D	A
113	3	In 2-D partioning, the first alignment takes time=?	Ts + twn/âˆšp.\n	Ts - twn/âˆšp.\n	Ts*twn/âˆšp.\n	Ts/ twn*âˆšp.\n	Ts + twn/âˆšp.\n
114	3	Using fewer than the maximum possible number of processing elements to execute a parallel algorithm is called_____?	Scaling Down	Scaling up	Scaling	Stimulation	Using fewer than the maximum possible number of processing elements to execute a parallel algorithm is called scaling down.
115	3	Which of the following is a drawback of matrix matrix multiplication?	Memory Optimal	Efficient	Time-bound	Complex	This is an explaination
116	3	Consider the problem of sorting 1024 numbers (n = 1024, log n = 10) on 32 processing elements. The speedup expected is	P/log n	P*log n	P+logn	N*log p	Consider the problem of sorting 1024 numbers (n = 1024, log n = 10) on 32 processing elements. The speedup expected is p/logn
117	3	Consider the problem of adding n numbers on p processing elements such that p < n and both n and p are powers of 2. The overall parallel execution time of the problem is:	êᵀᴹ¨((n/p) log p).	êᵀᴹ¨((n*p) log p).	êᵀᴹ¨((p/n) log p).	êᵀᴹ¨((n) log p).	Ans-(a)-êᵀᴹ¨((n/p) log p).
118	3	DNS algorithm has_____ runtime?	â„,¦(n)	â„,¦(n^2)	â„,¦(n^3)	â„,¦(logn)	DNS has â„,¦(n) runtime

	marks	question	A	B	C	D	ans
119	3	The serial algorithm requires_____ multiplications and additions in matrix-vector multiplication.\n	N^2	N^3	Log n	Nlog(n)	Ans-(b)-n^2. The serial algorithm requires n^2 multiplications and additions.\n\n
120	1	The time required to merge two sorted blocks of n/p elements is_____?\n\n	Î¸(n/p)	Î¸(n)	Î¸(p/n)	Î¸(nlogp)	The time required to merge two sorted blocks of n/p elements is Î¸(n/p).\n\n
121	1	In Parallel DFS,the stack is split into two equal pieces such that the size of the search space represented by each stack is the same. Such a split is called?.	Half-Split	Half-Split	Parallel-Split	None	The stack is split into two equal pieces such that the size of the search space represented by each stack is the same. Such a split is called a half-split.
122	1	To avoid sending very small amounts of work, nodes beyond a specified stack depth are not given away. This depth is called the_____depth.	Cut-Off	Breakdown	Full	Series	To avoid sending very small amounts of work, nodes beyond a specified stack depth are not given away. This depth is called the cutoff depth.
123	1	In sequential sorting algorithms, the input and the sorted sequences are stored in which memory?	Process Memory	Secondary Memory	Main Memory	External Memory	In sequential sorting algorithms, the input and the sorted sequences are stored in the process's memory
124	1	Each process sends its block to the other process. Now, each process merges the two sorted blocks and retains only the appropriate half of the merged block. We refer to this operation as?	Compare-Split	Split	Compare	Exchange.	Each process sends its block to the other process. Now, each process merges the two sorted blocks and retains only the appropriate half of the merged block. We refer to this operation as compare-split.

	marks	question	A	B	C	D	ans
125	1	Each process compares the received element with its own and retains the appropriate element.We refer this operation as_____?	Compare Exchange	Exchange	Process-Exchange	All	Each process compares the received element with its own and retains the appropriate element. We refer this as compare exchange.
126	1	Which algorithm maintains the unexpanded nodes in the search graph, ordered according to their l-value?	Parallel BFS	Parallel DFS	Both a and b	None	Parallel BFS maintains the unexpanded nodes in the search graph, ordered according to their l-value.
127	1	The critical issue in parallel depth-first search algorithms is the distribution of the search space among the_____?	Processor	Space	Memory	Blocks	The critical issue in parallel depth-first search algorithms is the distribution of the search space among the processors
128	2	Enumeration Sort uses how many processes to sort n elements?	N^2	Logn	N^3	N	This is an explaination.
129	2	Which sequence is a sequence of elements <a0, a1, ..., an-1> with the property that either (1) there exists an index i, 0 â‰¤ i â‰¤n - 1, such that <a0, ..., ai > is monotonically increasing and <ai +1, ..., an-1> is monotonically decreasing, or (2) there exists a cyclic shift of indices so that (1) is satisfied.	Bitonic Sequence	Acyclic Sequence	Asymptotic Sequence	Cyclic Sequence.	A bitonic sequence is a sequence of elements <a0, a1, ..., an-1> with the property that either (1) there exists an index i, 0 i n - 1, such that <a0, ..., ai > is monotonically increasing and <ai +1, ..., an-1> is monotonically decreasing, or (2) there exists a cyclic shift of indices so that (1) is satisfied

	marks	question	A	B	C	D	ans
130	2	To make a substantial improvement over odd-even transposition sort, we need an algorithm that moves elements long distances. Which one of these is such serial sorting algorithm?	Shell Sort	Linear Sort	Quick-Sort	Bubble Sort	To make a substantial improvement over odd-even transposition sort, we need an algorithm that moves elements long distances. Shellsort is one such serial sorting algorithm.
131	2	Quick-Sort is a_____ algorithm?	Divide and Conquer	Greedy Approach	Both a and b	None	Quicksort is a Divide and Conquer algorithm.
132	2	The_____ transposition algorithm sorts n elements in n phases (n is even), each of which requires n/2 compare-exchange operations.	Odd-Even	Odd	Even	None	This is an explaination.
133	2	The average time complexity for Bucket Sort is?	$O(n+k)$	$O(nlog(n+k))$	$O(n^3)$	$Î_{,}(n^2)$	The average time complexity for Bucket Sort is $O(n + k)$.
134	2	A popular serial algorithm for sorting an array of n elements whose values are uniformly distributed over an interval [a, b] is which algorithm?	Bucket Sort	Quick-Sort Algo.	Linear Sort	Bubble-Sort	A popular serial algorithm for sorting an array of n elements whose values are uniformly distributed over an interval [a, b] is the bucket sort algorithm
135	2	Best Case time complexity of Bubble Sort is:	$O(n)$	$O(n^3)$	$O(nlogn)$	$O(n^2)$	Best case complexity of bubblesort is $O(n)$.

	marks	question	A	B	C	D	ans
136	2	When more than one process tries to write to the same memory location, only one arbitrarily chosen process is allowed to write, and the remaining writes are ignored. This process is called_____ in quick sort.	CRCW-PRAM	PRAM	Partitioning	CRCW	When more than one process tries to write to the same memory location, only one arbitrarily chosen process is allowed to write, and the remaining writes are ignored.It is called CRCW PRAM quick sort algo.
137	2	Average Time Complexity in a quicksort algorithm is:	O(nlogn)	O(n)	O(n^3)	Î¸(n^2)	This is an explainatoin.
138	2	The isoefficiency function of Global Round Robin (GRR) is:	O (p^2 log p)	O (p log p)	O (log p)	O (p^2)	The isoefficiency function of GRR is O (p^2 log p)
139	2	A_____ is a device with two inputs x and y and two outputs x' and y' in a Sorting Network.	Comparator	Router	Separator	Switch.	A comparator is a device with two inputs x and y and two outputs x' and y'
140	2	If T is a DFS tree in G then the parallel implementation of the algorithm runs in _____time complexity.	O(t)	O(tlogn)	O(logt)	O(1)	If T is a DFS tree in G then the parallel implementation of the algorithm outputs a proof that can be verified in O(t) time complexity.
141	2	In the quest for fast sorting methods, a number of networks have been designed that sort n elements in time significantly smaller than___?	Î¸(nlogn)	Î¸(n)	Î¸(1)	Î¸(n^2)	In the quest for fast sorting methods, a number of networks have been designed that sort n elements in time significantly smaller than Î¸(nlogn).
142	2	The average value of the search overhead factor in parallel DFS is less than_____?	One	Two	Three	Four	The average value of the search overhead factor in parallel DFS is less than one
143	3	Parallel runtime for Ring architecture in a bitonic sort is:	Î¸(n)	Î¸(nlogn)	Î¸(n^2)	Î¸(n^3)	Parallel runtime for Ring architecture in a bitonic sort is Î¸(n)

	marks	question	A	B	C	D	ans
144	3	The Sequential Complexity of Odd-Even Transposition Algorithm is:	Θ(n^2)	Θ(nlogn)	Θ(n^3)	Θ(n)	This is an explaination.
145	3	The Algorithm represents which bubble sort:	Sequential Bubble Sort	Circular Bubble Sort	Simple Bubble Sort	Linear Bubble Sort	This is an explaination.
146	3	Enumeration Sort uses how much time to sort n elements?	Θ(1)	Θ(nlogn)	Θ(n^2)	Θ(n)	This is an explaination.
147	3	The_____algorithm relies on the binary representation of the elements to be sorted.	Radix-sort	Bubble Sort	Quick-Sort	Bucket-Sort	The radix sort algorithm relies on the binary representation of the elements to be sorted.
148	3	Parallel runtime for Mesh architecture in a bitonic sort is:	Θ(n/logn)	Θ(n)	Θ(n^2)	Θ(n^3)	This is an explaination.
149	1	The number of threads in a thread block is limited by the architecture to a total of how many threads per block?	512	502	510	412	The number of threads in a thread block is also limited by the architecture to a total of 512 threads per block
150	1	CUDA Architecture is mainly provided by which company?	NVIDIA	Intel	Apple	IBM	NVIDIA provides CUDA services.
151	1	In CUDA Architecture, what are subprograms called?	Kernel	Grid	Element	Blocks	Subprograms are called kernels.
152	1	What is the fullform of CUDA?	Compute Unified Device Architecture	Computer Unified Device Architecture	Common USB Device Architecture	Common Unified Disk Architecture	CUDA Stands for Compute Unified Device Architecture.
153	2	Which of these is not an application of CUDA Arhitecture?	Thermo Dynamics	Neural Networks	VLSI Stimulation	Fluid Dynamics	CUDA architecture has no use on Thermo Dynamics.
154	2	CUDA programming is especially well-suited to address problems that can be expressed as_____ computations.	Data parallel	Task Parallel	Both a and b	None	CUDA programming is especially well-suited to address problems that can be expressed as dataparallel computations.
155	2	CUDA C/C++ uses which keyword in programming:	global	kernel	Cuda_void	nvcc	This is an explaination.
156	2	CUDA programs are saved with_____ extension.	.cd	.cx	.cc	.cu	This is an explaination

	marks	question	A	B	C	D	ans
157	2	The Kepler K20-X chip block, contains____ streaming multiprocessors\n(SMs).	15	8	16	7	The Kepler K20X chip block diagram, containing 15 streaming multiprocessors (SMs)
158	2	The Kepler K20X architecture increases the register file size to:	64K	32K	128K	256K	The K20X architecture increases the register fi le size to 64K
159	2	The register file in a GPU is of what size?	2 MB	1 MB	3MB	1024B	Register size in a GPU is 2MB.
160	2	NVIDIA€™s GPU computing platform is not enabled on which of the following product families:	AMD	Tegra	Quadro	Tesla	This is an explaination.
161	2	Tesla K-40 has compute capability of:	3.5	3.2	3.4	3.1	This is an explaination.
162	2	The SIMD unit creates, manages, schedules and executes____ threads simultaneously to create a warp.	32	16	24	8	The SIMD unit creates, manages, schedules and executes 32 threads simultaneously to create a warp
163	2	Which hardware is used by the host interface to fasten the transfer of bulk data to and fro the graphics pipeline?	Direct Memory Access	Switch	Hub	Memory Hardware	This is an Explaination
164	2	A ____ is a collection of thread blocks of the same thread dimensionality which all execute the same kernel.	Grid	Core	Element	Blcoks	A €˜grid€™ is a collection of thread blocks of the same thread dimensionality which all execute the same kernel
165	2	Active Warps can be classified into how many types?	3	2	4	5	This is an explaination.
166	2	All threads in a grid share the same_____space.	Global memory	Local Memory	Synchronized Memory	All	All threads in a grid\nshare the same global memory space
167	2	CUDA was introduced in which year?	2007	2006	2008	2010	This is an explaination.

	marks	question	A	B	C	D	ans
168	3	Unlike a C function call, all CUDA kernel launches are:	Asynchronous	Synchronous	Both a and b	None	Unlike a C function call, all CUDA kernel launches are asynchronous
169	3	A warp consists of____consecutive threads and all threads in a warp are executed in Single Instruction Multiple Thread (SIMT) fashion.	32	16	64	128	A warp consists of 32 consecutive threads and all\nthreads in a warp are executed in Single Instruction Multiple Thread (SIMT) fashion
170	3	There are how many streaming multiprocessors in CUDA architecture?	16	8	12	4	This is an explaination.
171	3	In CUDA programming, if CPU is the host then device will be:	GPU	Compiler	HDD	GPGPU	This is an explaination.
172	3	Both grids and blocks use the_____ type with three unsigned integer fields.	Dim3	Dim2	Dim1	Dim4	Both grids and blocks use the dim3 type with three unsigned integer fi elds
173	3	Tesla P100 GPU based on the Pascal GPU Architecture has 56 Streaming Multiprocessors (SMs), each capable of supporting up to____active threads.	2048	512	1024	256	Tesla P100 GPU based on the Pascal GPU Architecture has 56 Streaming Multiprocessors (SMs), each capable of supporting up to 2048 active threads.
174	3	The maximum size at each level of the thread hierarchy is_____dependent.	Device	Host	Compiler	Memory	The maximum size at each level of the thread hierarchy is device dependent.
175	3	Intel I7 has the memory bus of width:	19B	180B	152B	102B	This is an explaination.
176	3	The_____ is the heart of the GPU architecture:	Streaming Multiprocessor	Multiprocessor	CUDA	Compiler	The Streaming Multiprocessor (SM) is the heart of the GPU architecture.

	marks	question	A	B	C	D	ans
177	3	A kernel is defined using the_____ declaration specification	_global	_host	_device	_void	A kernel is defined using the\n__global declaration specification
178	3	The function printThreadInfo() is not used to print out which of the following information about each thread:	Memory Allocations	Block Index	Matrix Coordinates	Control-Index	Ans-(d)- Memory Allocations.