

A ..... does not keep track of address of every element in the list.	1. Stack 2. String 3. <b>Linear Array</b> 4. Queue
A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called .....	1. <b>AVL tree</b> 2. Red Black tree 3. B trees 4. Spanning trees
A linked-list is a _____ structure	1. Static 2. Array of 3. <b>Dynamic</b> 4. Fixed
A posterior analysis are more accurate than apriori analysis because –	1. <b>It contains the real data</b> 2. It assumes all other factors to be dynamic 3. It assumes all other factors to be constant 4. It is a result of reverse-engineering
Arrays are best data structures .....	1. <b>For relatively permanent collections of data.</b> 2. For the size of the structure and the data in the structure are constantly changing

	3. For both of above situation 4. For none of the above
If the array is already sorted, which of these algorithms will exhibit the best performance	1. Merge Sort 2. <b>Insertion Sort</b> 3. Quick Sort 4. Heap Sort
Inserting an item into the stack when stack is not full is called ..... Operation and deletion of item from the stack, when stack is not empty is called .....operation.	1. <b>Push and Pop</b> 2. Pop and Push 3. Insert and Delete 4. Delete and Insert
Minimum number of spanning tree in a connected graph is	1. 0 2. n 3. $2n$ 4. <b>1</b>
Shell sort uses	1. <b>Insertion Sort</b> 2. Quick Sort 3. Merge Sort 4. Selection Sort
The logical or mathematical model of a particular organization of data is called a .....	1. <b>Data Structure</b> 2.Data Configuration

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	3.Data arrangement 4.Data formation
What will be the running-time of Dijkstra's single source shortest path algorithm, if the graph $G(V,E)$ is stored in form of adjacency list and binary heap is used –	1. $O( V ^2)$ 2. $O( V  \log  V )$ 3. $O( E  +  V  \log  V )$ 4. None of these
When does top value of the stack changes?	1. Before deletion 2. <b>After Deletion</b> 3. While checking for underflow 4. At the time of deletion
Which if the following is/are the levels of implementation of data structure	1. Abstract level 2. Application level 3. Implementation level 4. <b>All of the above</b>
<b>Which of the following is not the part of ADT description?</b>	1. Data 2. Operations 3. Both A and B 4. <b>None of A and B</b>
Which of the following is true about the characteristics of abstract data types? A. It exports a set of operations	1. <b>A is true, B is true</b>

B. It exports a type.	2. A is true and B is false 3. A is false and B is true 4. A is false and B is false
Which of the following algorithm cannot be designed without recursion –	1. Tower of Hanoi 2. Fibonacci Series 3. Tree Traversal 4. <b>Polynomial Evaluation</b>
Which of the following has search efficiency of $O(1)$ –	1. Tree 2. Heap 3. <b>Hash Table</b> 4. Linked List
..... is very useful in situation when data have to stored and then retrieved in reverse order.	1. <b>Stack</b> 2. Queue 3. Single Linked List 4. Doubly Linked List
..... is not the component of data structure.	1. Operations 2. Storage Structures 3. Algorithms 4. <b>None of the above</b>
..... Is a pile in which items are added at one end and removed from the other.	1. Stack 2. <b>Queue</b> 3. Single Linked List 4. Double Linked List

..... level is where the model becomes compatible executable code	1. Abstract level 2. Application Level 3. <b>Implementation Level</b> 4. Interpreting Level
In order traversal of binary search tree will produce –	1. unsorted list 2. reverse of input 3. <b>sorted list</b> 4. none of the above
What data structure can be used to check if a syntax has balanced parenthesis ?	1. Queue 2. <b>Stack</b> 3. Tree 4. List
Which of the following data structures are indexed structures?	1. <b>Linear arrays</b> 2. Linked Lists 3. Graphs 4. Trees
A graphical display of the fundamental products in a truth-table is known as	1. Mapping 2. Graphing 3. T-Map 4. <b>K-Map</b>
The minimum number of NAND gates required to implement the Boolean function. $A + AB' + AB'C$ is equal to	1. <b>Zero</b> 2. 1 3. 4 4. 7

Which of the following logic expression is incorrect?	1. $1 \oplus 0 = 1$ 2. $1 \oplus 1 \oplus 1 = 1$ 3. $1 \oplus 1 = 0$ 4. $1 \oplus 1 \oplus 0 = 1$
How many illegitimate states has synchronous mod-6 counter ?	1. <span style="background-color: yellow;">3</span> 2. 2 3. 1 4. 6
To build a mod-19 counter the number of flip-flops required is	1. 3 2. <span style="background-color: yellow;">5</span> 3. 7 4. 9
Mod-6 and mod-12 counters are most commonly used in	1. frequency counters 2. multiplexed displays 3. <span style="background-color: yellow;">digital clocks</span> 4. power consumption meters
$X=1010100$ and $Y=1000011$ using 1's complement $Y-X$ is	1. $-10111$ 2. $-10011$ 3. <span style="background-color: yellow;">-10001</span> 4. $-11001$
A _____ in a table represents a relationship among a set of values.	1. Column 2.

	Key 3. <b>Row</b> 4. Entry
A domain is atomic if elements of the domain are considered to be _____ units.	1. Different 2. <b>Indivisible</b> 3. Constant 4. Divisible
Database _____, which is a snapshot of the data in the database at a given instant in time	1. Schema 2. Domain 3. <b>Instance</b> 4. Relation
Database _____, which is the logical design of the database	1. Instance 2. <b>Schema</b> 3. Relation 4. Domain
For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute.	1. <b>Domain</b> 2. Relation 3. Set 4. Schema
The term _____ is used to refer to a row.	1. Attribute 2.

	<p><b>Tuple</b></p> <p>3. Field</p> <p>4. Instance</p>
The tuples of the relations can be of _____ order.	<p>1. <b>Any</b></p> <p>2. Same</p> <p>3. Sorted</p> <p>4. Constant</p>
A relational database consists of a collection of	<p>1. <b>Tables</b></p> <p>2. Fields</p> <p>3. Records</p> <p>4. Keys</p>
A _____ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.	<p>1. Rows</p> <p>2. <b>Key</b></p> <p>3. Attribute</p> <p>4. Fields</p>
A _____ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.	<p>1. <b>Referential</b></p> <p>2. Referencing</p> <p>3. Specific</p> <p>4.</p>

	Primary
A attribute in a relation is a foreign key if the _____ key from one relation is used as an attribute in that relation .	1. Candidate 2. Primary 3. Super 4. Sub
A table on the many side of a one to many or many to many relationship must:	1. Be in Second Normal Form (2NF) 2. Be in Third Normal Form (3NF) 3. Have a single attribute key 4. Have a composite key
Consider attributes ID , CITY and NAME . Which one of this can be considered as a super key ?	1. NAME 2. ID 3. CITY 4. none of the above
Functional Dependencies are the types of constraints that are based on_____	1. Key 2. Key revisited 3. Superset key 4. None of these

<p>In a relation between the entities the type and condition of the relation should be specified . That is called as _____ attribute</p>	<ol style="list-style-type: none"> <li>1. Descriptive</li> <li>2. Derived</li> <li>3. Recursive</li> <li>4. Relative</li> </ol>
<p>Not applicable condition can be represented in relation entry as</p>	<ol style="list-style-type: none"> <li>1. NA</li> <li>2. 0</li> <li>3. <b>NULL</b></li> <li>4. Blank Space</li> </ol>
<p>Tables in second normal form (2NF):</p>	<ol style="list-style-type: none"> <li>1. <b>Eliminate all hidden dependencies</b></li> <li>2. Eliminate the possibility of a insertion anomalies</li> <li>3. Have a composite key</li> <li>4. Have all non key fields depend on the whole primary key</li> </ol>
<p>The _____ is the one in which the primary key of one relation is used as a normal attribute in another relation .</p>	<ol style="list-style-type: none"> <li>1. Referential relation</li> <li>2. Referencing relation</li> <li>3. <b>Referenced relation</b></li> <li>4. Referred relation</li> </ol>

The attribute AGE is calculated from DATE_OF_BIRTH . The attribute AGE is _____	1. Single valued  2. Multi valued  3. stored  4. <b>Derived</b>
The attribute name could be structured as a attribute consisting of first name, middle initial, and last name . This type of attribute is called _____	1. Simple attribute  2. <b>Composite attribute</b>  3. Multivalued attribute  4. Derived attribute
The descriptive property possessed by each entity set is _____.	1. Entity  2. <b>Attribute</b>  3. Relation  4. Model
The function that an entity plays in a relationship is called that entity's _____.	1. Participation  2. Position  3. <b>Role</b>  4. Instance
The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as primary key is called	1. Referential relation  2. <b>Referencing relation</b>

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	3. Referenced relation  4. Referred relation
Which forms simplifies and ensures that there is minimal data aggregates and repetitive groups:	1. 1NF  2. <b>2NF</b>  3. 3NF  4. 4NF
Which of the following is a single valued attribute	1. <b>Register_number</b>  2. Address  3. SUBJECT_TAKEN  4. Reference
An _____ is a set of entities of the same type that share the same properties, or attributes .	1. <b>Entity</b> set  2. Attribute set  3. Relation set  4. Entity model
Entity is a _____	1. Object of relation  2. Present working model  3. <b>Thing in real world</b>  4. Model of relation

<p>Which is a bottom-up approach to database design that design by examining the relationship between attributes:</p>	<ol style="list-style-type: none"> <li>1. Functional dependency</li> <li>2. Database modeling</li> <li>3. <b>Normalization</b></li> <li>4. Decomposition</li> </ol>
<p>Which of the following can be a multivalued attribute ?</p>	<ol style="list-style-type: none"> <li>1. <b>Phone_number</b></li> <li>2. Register Number</li> <li>3. Date_of_birth</li> <li>4. All of the mentioned</li> </ol>
<p>Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?</p>	<ol style="list-style-type: none"> <li>1. Candidate key</li> <li>2. Sub key</li> <li>3. <b>Super key</b></li> <li>4. Foreign key</li> </ol>
<p>The term attribute refers to a _____ of a table.</p>	<ol style="list-style-type: none"> <li>1. Record</li> <li>2. <b>Column</b></li> <li>3. Tuple</li> <li>4. Key</li> </ol>
<p>Empdt1(empcode, name, street, city, state,pincode). For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in</p>	<ol style="list-style-type: none"> <li>1. 1 NF only</li> <li>2.</li> </ol>

	<p>2 NF and hence also in 1 NF 3. 3NF and hence also in 2NF and 1NF 4. BCNF and hence also in 3NF, 2NF and 1NF</p>
In the _____ normal form, a composite attribute is converted to individual attributes.	<p>1. First  2. Second  3. <b>Third</b>  4. Fourth</p>
The subset of super key is a candidate key under what condition ?	<p>1. <b>No proper subset is a super key</b>  2. All subsets are super keys  3. Subset is a super key  4. Each subset is a super key</p>
_____ users work on canned transactions	<p>1. sophisticated 2. <b>naïve</b> 3. DBA 4. casual</p>
_____ is the deadlock free lock	<p>1. <b>Conservative 2PL</b>  2. Basic 2PL 3. Rigorous 2PL 4. Strict 2PL</p>

<p>_____ is the first schema to be designed when you are developing a DBMS</p>	<ol style="list-style-type: none"> <li>1. conceptual</li> <li>2. relational</li> <li>3. physical</li> <li>4. hierarchical</li> </ol>
<p>Which of this is not a implementation data model</p>	<ol style="list-style-type: none"> <li>1. UML</li> <li>2. Relational</li> <li>3. Hierarchical</li> <li>4. network</li> </ol>
<p>DBMS cannot be classified on</p>	<ol style="list-style-type: none"> <li>1. data model</li> <li>2. Number of sites</li> <li>3. Number of users</li> <li>4. Concurrency level</li> </ol>
<p>The _____ checks the query syntax to determine whether it is formulated according to the syntax rules of the query language.</p>	<ol style="list-style-type: none"> <li>1. Scanner</li> <li>2. Parser</li> <li>3. Validation</li> <li>4. query tree</li> </ol>
<p>. When transaction <math>T_i</math> requests a data item currently held by <math>T_j</math>, <math>T_i</math> is allowed to wait only if it has a timestamp larger than that of <math>T_j</math> (that is, <math>T_i</math> is younger than <math>T_j</math>). Otherwise, <math>T_j</math> is rolled back (<math>T_j</math> is wounded by <math>T_i</math>). This is</p>	<ol style="list-style-type: none"> <li>1. Wait-die</li> <li>2. Wait-wound</li> <li>3. Wound-wait</li> <li>4. Wait</li> </ol>
<p>_____ rollback requires the system to maintain additional information about the state of all the running transactions.</p>	<ol style="list-style-type: none"> <li>1. Total</li> <li>2.</li> </ol>

	<p><b>Partial</b></p> <p>3. Time</p> <p>4. Commit</p>
A deadlock exists in the system if and only if the wait-for graph contains a _____.	<p>1. <b>Cycle</b></p> <p>2. Direction</p> <p>3. Bi-direction</p> <p>4. Rotation</p>
A lock that allows concurrent transactions to access different rows of the same table is known as a	<p>1. Database-level lock</p> <p>2. Table-level lock</p> <p>3. Page-level lock</p> <p>4. <b>Row-level lock</b></p>
A primary key is combined with a foreign key creates	<p>1. <b>Parent-Child relation ship between the tables that connect them</b></p> <p>2. Many to many relationship between the tables that connect them</p> <p>3. Network model between the tables that connect them</p> <p>4. None of the mentioned</p>
A system is in a _____ state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set.	<p>1. Idle</p> <p>2.</p>

	<p>Waiting</p> <p>3. <b>Deadlock</b></p> <p>4. Ready</p>
A window into a portion of a database is	<p>1. Schema</p> <p>2. <b>View</b></p> <p>3. Query</p> <p>4. Data dictionary</p>
All lock information is managed by a ____, which is responsible for assigning and policing the locks used by the transactions.	<p>1. Scheduler</p> <p>2. DBMS</p> <p>3. <b>Lock manager</b></p> <p>4. Locking agent</p>
An entity set that does not have sufficient attributes to form a primary key is termed a _____. .	<p>1. Strong entity set</p> <p>2. Variant set</p> <p>3. <b>Weak entity set</b></p> <p>4. Variable set</p>
Consider a directed line(->) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality	<p>1. One to many</p> <p>2. <b>One to one</b></p> <p>3.</p>

	<p>Many to many</p> <p>4.</p> <p>Many to one</p>
For a weak entity set to be meaningful, it must be associated with another entity set, called the	<p>1.</p> <p><b>Identifying set</b></p> <p>2.</p> <p>Owner set</p> <p>3.</p> <p>Neighbour set</p> <p>4.</p> <p>Strong entity set</p>
Given the basic ER and relational models, which of the following is INCORRECT?	<p>1.</p> <p>An attribute of an entity can have more than one value</p> <p>2.</p> <p>An attribute of an entity can be composite</p> <p>3.</p> <p><b>In a row of a relational table, an attribute can have more than one value</b></p> <p>4.</p> <p>In a row of a relational table, an attribute can have exactly one value or a NULL value</p>
If transaction $T_i$ gets an explicit lock on the file $F_c$ in exclusive mode, then it has an _____ on all the records belonging to that file.	<p>1.</p> <p>Explicit lock in exclusive mode</p> <p>2.</p> <p>Implicit lock in shared mode</p> <p>3.</p> <p>Explicit lock in shared mode.</p> <p>4.</p> <p><b>Implicit lock in exclusive mode</b></p>
If you were collecting and storing information about your music collection, an album would be considered a(n) _____.	<p>1.</p> <p>Relation</p> <p>2.</p>

	<p><b>Entity</b></p> <p>3. Instance</p> <p>4. Attribute</p>
Key to represent relationship between tables is called	<p>1. Primary key</p> <p>2. Secondary Key</p> <p>3. <b>Foreign Key</b></p> <p>4. None of the mentioned</p>
The deadlock in a set of transaction can be determined by	<p>1. <b>Read-only graph</b></p> <p>2. Wait graph</p> <p>3. Wait-for graph</p> <p>4. All of the mentioned</p>
The deadlock state can be changed back to stable state by using _____ statement.	<p>1. Commit</p> <p>2. <b>Rollback</b></p> <p>3. Savepoint</p> <p>4. Deadlock</p>
The entity relationship set is represented in E-R diagram as	<p>1. Double diamonds</p> <p>2. Undivided rectangles</p> <p>3. Dashed lines</p>

	4. <b>Diamond</b>
The Rectangles divided into two parts represents	1. <b>Entity set</b>  2. Relationship set  3. Attributes of a relationship set  4. Primary key
The situation where the lock waits only for a specified amount of time for another lock to be released is	1. <b>Lock timeout</b>  2. Wait-wound  3. Timeout  4. Wait
We indicate roles in E-R diagrams by labeling the lines that connect _____ to _____.	1. Diamond , diamond  2. Rectangle, diamond  3. Rectangle, rectangle  4. <b>Diamond, rectangle</b>
Weak entity set is represented as	1. Underline  2. Double line  3. Double diamond  4. <b>Double rectangle</b>
What are the ways of dealing with deadlock ?	1.

	Deadlock prevention 2. Deadlock recovery 3. Deadlock detection 4. <b>All of the mentioned</b>
What is a relationship called when it is maintained between two entities?	1. Unary 2. <b>Binary</b> 3. Ternary 4. Quaternary
What term is used to refer to a specific record in your music database; for instance; information stored about a specific album?	1. Relation 2. <b>Instance</b> 3. Table 4. Column
When transaction $T_i$ requests a data item currently held by $T_j$ , $T_i$ is allowed to wait only if it has a timestamp smaller than that of $T_j$ (that is, $T_i$ is older than $T_j$ ). Otherwise, $T_i$ is rolled back (dies). This is	1. <b>Wait-die</b> 2. Wait-wound 3. Wound-wait 4. wait
Which of the following are introduced to reduce the overheads caused by the log-based recovery?	1. <b>Checkpoints</b> 2. Indices

	3. Deadlocks  4. Locks
Which of the following indicates the maximum number of entities that can be involved in a relationship?	1. Minimum cardinality  2. <b>Maximum cardinality</b>  3. ERD  4. Greater Entity Count
Which of the following is a procedure for acquiring the necessary locks for a transaction where all necessary locks are acquired before any are released?	1. Record controller  2. Exclusive lock  3. Authorization rule  4. <b>Two phase lock</b>
Which of the following protocols ensures conflict serializability and safety from deadlocks?	1. Two-phase locking protocol  2. <b>Time-stamp ordering protocol</b>  3. Graph based protocol  4. Node based protocol
Which refers to a property of computer to run several operation simultaneously and possible as computers await response of each other	1. <b>Concurrency</b>  2. Deadlock  3. Backup

	4. Recovery
Which of the following gives a logical structure of the database graphically ?	1. <b>Entity-relationship diagram</b>  2. Entity diagram  3. Database diagram  4. Architectural representation
Which of the following is the block that is not permitted to be written back to the disk?	1. Dead code  2. Read only  <b>Pinned</b>  4. Zapped
_____ means that data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.	1. Serializability  2. Atomicity  <b>Isolation</b>  4. Time stamping
DBMS periodically suspends all processing and synchronizes its files and journals through the use of	1. <b>Checkpoint facility</b>  2. Backup facility  3. Recovery manager  4. Database change log
Each modification done in database transaction are first recorded into the	1.Harddrive

	<p>2.Log</p> <p>3.Disk</p> <p>4.Datamart</p>
If an transaction is performed in a database and committed, the changes are taken to the previous state of transaction by	<p>1. Flashback</p> <p>2. Rollback</p> <p>3. Redo</p> <p>4. Cannot be done</p>
If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called	<p>1. Consistent state</p> <p>2. Parallel state</p> <p>3. Atomic state</p> <p>4. Inconsistent state</p>
The name of the transaction file shall be provided by the operator and the file that contains the edited transactions ready for execution shall be called	<p>1. Batch. Exe</p> <p>2. Trans. Exe</p> <p>3. Opt. Exe</p> <p>4. Edit.Exe</p>
Questions	Choices
When the transaction finishes the final statement the transaction enters into	<p>1. Active state</p> <p>2.</p>

	<p>Committed state</p> <p>3. <b>Partially committed state</b></p> <p>4. Abort state</p>
Which of the following is an atomic sequence of database actions?	<p>1. <b>Transaction</b></p> <p>2. Concurrency</p> <p>3. Relations</p> <p>4. Reliability</p>
Which of the following is not a state in transaction ?	<p>1. Active</p> <p>2. <b>Terminated</b></p> <p>3. Aborted</p> <p>4. Partially committed</p>
A transaction may not always complete its execution successfully. Such a transaction is termed	<p>1. <b>Aborted</b></p> <p>2. Terminated</p> <p>3. Closed</p> <p>4. All of the mentioned</p>
In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?	<p>1. Triggers</p> <p>2. Pointers</p> <p>3. <b>Locks</b></p> <p>4. Cursors</p>

	4. Cursors
Let us consider phone_number ,which can take single or several values . Treating phone_number as an _____ permits instructors to have several phone numbers (including zero) associated with them.	1. <b>Entity</b> 2. Attribute 3. Relation 4. Value
The total participation by entities is represented in E-R diagram as	1. Dashed line 2. <b>Double line</b> 3. Double rectangle 4. Circle
If memory access takes 20 ns with cache and 110 ns without it, then the ratio (cache uses a 10 ns memory) is _____.  	1. 93% 2. <b>90%</b> 3. 88% 4. 83%
In a memory-mapped I/O system, which of the following will not be there?	1. <b>LDA</b> 2. IN 3. OUT 4. ADD
Suppose that a bus has 16 data lines and requires 4 cycles of 250 nsecs each to transfer data. The bandwidth of this bus would be 2 Megabytes/sec. If the cycle time of the bus was reduced to 125 nsecs and the number of cycles required for transfer stayed the same what would the bandwidth of the bus?	1. 1 Megabyte/sec 2. <b>2 Megabyte/sec</b> 3. 3 Megabyte/sec 4. 4 Megabyte/sec

The average time required to reach a storage location in memory and obtain its contents is called _____.  	1. Latency time 2. <b>Access time</b> 3. Turnaround time 4. Response time.
The circuit used to store one bit of data is known as _____.  	1. Register 2. Encoder 3. Decoder 4. <b>Flipflop</b>
The load instruction is mostly used to designate a transfer from memory to a processor register known as _____.  	1. <b>Accumulator</b>  2. Instruction Register 3. Program counter  4. Memory address Register
The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have $(11101)$ & $(1100)$ . The result shall be _____.  	1. <b><math>(812)_{10}</math></b> 2. $(-812)_{10}$ 3. $(-12)_{10}$ 4. $(12)_{10}$
The time interval between adjacent bits is called the _____.  	1. Word-time  2. <b>Bit-time</b> 3. Turn around time  4. Slice time
<b>(2FAOC)<sub>16</sub></b> is equivalent to _____.  	1. $(195\ 084)_{10}$ 2.

	(00101111010 0000 1100)2 3. <b>[011011011011 0000 1100]2</b> 4. None of these
_____ register keeps track of the instructions stored in program stored in memory.	1. Address Register 2. Data Register 3. <b>Program counter</b> 4. Accumulator
A group of bits that tell the computer to perform a specific operation is known as_____.	1. <b>Instruction code</b>  2. Micro-operation  3. Accumulator  4. Register
A k-bit field can specify any one of_____.	1. 3k registers 2. <b>2k registers</b> 3. k2 registers 4. k3 registers
Cache memory works on the principle of_____.	1. Locality of data 2. Locality of memory 3. <b>Locality of reference</b> 4. Locality of reference and memory
Computers use addressing mode techniques for_____.	1.

	<p>giving programming versatility to the user by providing facilities as pointers to memory counters for loop control</p> <p>2.</p> <p>to reduce no. of bits in the field of instruction</p> <p>3.</p> <p>specifying rules for modifying or interpreting address field of the instruction</p> <p>4.</p> <p>All the above</p>
In a microprocessor system, the RST instruction will cause an interrupt	<p>1.</p> <p>only if an interrupt service routine is being executed</p> <p>2.</p> <p>only if a bit in the interrupt mask is made 0</p> <p>3.</p> <p>only if interrupts have been enabled by an EI instruction</p> <p>4.</p> <p>None of these</p>
In a vectored interrupt.	<p>1.</p> <p>the branch address is assigned to a fixed location in memory.</p> <p>2.</p> <p>the interrupting source supplies the branch information to the processor through an interrupt vector.</p> <p>3.</p> <p>the branch address is obtained from a register in the processor</p> <p>4.</p> <p>None of the above</p>
In Reverse Polish notation, expression A*B+C*D is written as	<p>1.</p> <p>AB*CD*+</p> <p>2.</p> <p>A*BCD*+</p> <p>3.</p> <p>AB*C*D+</p> <p>4.</p> <p>AB*+CD*</p>
Memory unit accessed by content is called _____.	<p>1.</p>

	Read only memory 2.  Programmable Memory  3. Virtual Memory 4.  <b>Associative Memory</b>
Microprocessor 8085 is the enhanced version of ..... with essentially the same construction set	1. <b>8080</b> 2. 8088 3. 8800 4. 6800
MIMD stands for _____.  	1. <b>Multiple instruction multiple data</b> 2. Multiple instruction memory data 3. Memory instruction multiple data 4. Multiple information memory data
<b>n bits in operation code imply that there are _____ possible distinct</b>	1. $n^2$ 2. <b>2^n</b> 3. $2^n$ 4. $n^2$
Number of machine cycles required for RET instruction in 8085 microprocessor is	1. 1 2. 2 3. <b>3</b> 4. 4
PSW is saved in stack when there is a _____.  	1. <b>interrupt recognized</b> 2.

	<ul style="list-style-type: none"> <li>execution of RST instruction</li> <li>3.</li> <li>Execution of CALL instruction</li> <li>4.</li> <li>All of these</li> </ul>
The addressing mode used in an instruction of the form ADD X Y, is _____.	<ul style="list-style-type: none"> <li>1.</li> <li>Absolute</li> <li>2.</li> <li>Indirect</li> <li>3.</li> <li>indexed</li> <li>4.</li> <li>base addressed</li> </ul>
The amount of time required to read a block of data from a disk into memory is composed of seek time, rotational latency, and transfer time. Rotational latency refers to _____.	<ul style="list-style-type: none"> <li>1.</li> <li>the time takes for the platter to make a full rotation</li> <li>2.</li> <li>the time it takes for the read-write head to move into position over the appropriate track</li> <li>3.</li> <li>the time it takes for the platter to rotate the correct sector under the head</li> <li>4.</li> <li>none of the above</li> </ul>
The average time required to reach a storage location in memory and obtain its contents is called the _____.	<ul style="list-style-type: none"> <li>1.</li> <li>seek time</li> <li>2.</li> <li>turn around time</li> <li>3.</li> <li>access time</li> <li>4.</li> <li>transfer time</li> </ul>
The circuit converting binary data in to decimal is _____.	<ul style="list-style-type: none"> <li>1.</li> <li>Encoder</li> <li>2.</li> <li>Decoder</li> <li>3.</li> <li>Multiplexer</li> <li>4.</li> <li>Code converter</li> </ul>
To put the microprocessor in the wait state	<ul style="list-style-type: none"> <li>1.</li> <li>lower the HOLD input</li> <li>2.</li> <li>lower the READY input</li> </ul>

	3. raise the HOLD input 4. None of these
Translation from symbolic program into Binary is done in ____.	1. <b>Two passes.</b> 2. Three passes. 3. Four passes. 4. Five passes
Von Neumann architecture is ____.	1. <b>SISD</b> 2. SIMD 3. MISD 4. MIMD
What characteristic of RAM memory makes it not suitable for permanent storage?	1. too slow 2. unreliable 3. <b>it is volatile</b> 4. too bulky
Which of the following is not a weighted code?	1. Decimal Number system 2. <b>Excess 3-code</b> 3. Binary number System 4. None of these
A three input NOR gate gives logic high output only when ____.	1. one input is high 2. one input is low 3. two input are low 4. <b>all input are low</b>
An instruction used to set the carry flag in a computer can be classified as	1. Data transfer 2. Program Control

	<p>3. Logical 4. Arithmetic</p>
Assembly language _____.	<p>1. <b>uses alphabetic codes in place of binary numbers used in machine language</b> 2. is the easiest language to write programs 3. need not be translated into machine language 4. None of these</p>
Which two are valid constructors for Thread?  Thread(Runnable r, String name) Thread() Thread(int priority) Thread(Runnable r, ThreadGroup g) Thread(Runnable r, int priority)	<p>1. 1 and 3 2. 2 and 4 3. <b>1 and 2</b> 4. 2 and 5</p>
class can have many methods with the same name as long as the number of parameters or type of parameters is different. This OOP concept is known as	<p>1. Method Invoking 2. <b>Method Overloading</b> 3. Method Overriding 4. Method Labeling</p>
Which of the following is considered as a blue print that defines the variables and methods common to all of its objects of a specific kind?	<p>1.object 2.<b>class</b> 3.method 4.data type</p>
What will be printed as the output of the following program?  public class testincr { public static void main(String args[]) { int i = 0; i = i++ + i;	<p>1. I = 0 2. <b>I = 1</b> 3. I = 2 4. I = 3</p>

<pre>System.out.println("I = " +i); } }</pre>	
<p>cout stands for</p>	<ol style="list-style-type: none"> <li>1. class output</li> <li>2. <b>character output</b></li> <li>3. common output</li> <li>4. call output</li> </ol>
<p>R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.</p>	<ol style="list-style-type: none"> <li>1. <math>n+m</math></li> <li>2. <b><math>n*m</math></b></li> <li>3. <math>n / m</math></li> <li>4. <math>n-m</math></li> </ol>
<p>Inline functions are invoked at the time of</p>	<ol style="list-style-type: none"> <li>1. Run time</li> <li>2. <b>Compile time</b></li> <li>3. Depends on how it is invoked</li> <li>4. Both b and c above</li> </ol>
<p>Mater slave flipflop can be constructed with</p>	<ol style="list-style-type: none"> <li>1. SR Latch</li> <li>2. adder</li> <li>3. <b>JK flipflop</b></li> <li>4. multiplier</li> </ol>
<p>Minterms are also called</p>	<ol style="list-style-type: none"> <li>1. standard sum</li> <li>2. <b>standard product</b></li> <li>3. standard division</li> <li>4.</li> </ol>

	standard subtraction
Voltage operated circuits represent	<ol style="list-style-type: none"> <li>1.</li> <li>Decimal variables</li> <li>2.</li> <li>Hexadecimal variables</li> <li>3.</li> <li><b>Binary variables</b></li> <li>4.</li> <li>Octa variables</li> </ol>
What is the meaning of the return data type void?	<ol style="list-style-type: none"> <li>1.</li> <li>An empty memory space is returned so that the developers can utilize it.</li> <li>2.</li> <li><b>void returns no data type.</b></li> <li>3.</li> <li>void is not supported in Java</li> <li>4.</li> <li>None of the above</li> </ol>
What is stored in the object obj in following lines of code? box obj;	<ol style="list-style-type: none"> <li>1.</li> <li>Memory address of allocated memory.</li> <li>2.</li> <li><b>NULL</b></li> <li>3.</li> <li>Any arbitrary pointer</li> <li>4.</li> <li>Garbage</li> </ol>
What will be the output of the following program? <pre>class B {     static int count = 100;     public void increment()     {         count++;     }     public static void main(String []args)     {         B b1 = new B();         b1.increment();         B b2 = new B();         System.out.println(b2.count); } }</pre>	<ol style="list-style-type: none"> <li>1.100</li> <li>2.<b>101</b></li> <li>3.3</li> <li>4.error</li> </ol>
What will be the Output?  <pre>class Animal {     String name = "animal";     String makeNoise() { return "generic noise"; }</pre>	<ol style="list-style-type: none"> <li>1.</li> <li>animal generic noise</li> <li>2.</li> <li><b>animal bark</b></li> <li>3.</li> <li>dog bark</li> <li>4.</li> </ol>

<pre> } class Dog extends Animal {     String name = "dog";     String makeNoise() { return "bark"; } } public class Test {     public static void main(String[] args)     {         Animal an = new Dog();         System.out.println(an.name+" "+an.makeNoise());     } } </pre>	<p>dog generic noise</p>
<p>When a thread terminates its processing, into what state that thread enters?</p>	<ol style="list-style-type: none"> <li>1. Running state</li> <li>2. Waiting state</li> <li>3. Beginning state</li> <li>4. <b>Dead state</b></li> </ol>
<p>Which of these interface declares core method that all collections will have?</p>	<ol style="list-style-type: none"> <li>1. set</li> <li>2. EventListner</li> <li>3. Comparator</li> <li>4. <b>Collection</b></li> </ol>
<p>" Is the requirement properly understood? ",relates to _____</p>	<ol style="list-style-type: none"> <li>1. Traceability</li> <li>2. <b>Comprehensibility.</b></li> <li>3. Adaptability</li> <li>4. Verifiability</li> </ol>
<p>"Can the requirement be changed without a large impact on other requirements?",is related to _____</p>	<ol style="list-style-type: none"> <li>1. Comprehensibility</li> <li>2. Verifiability</li> <li>3. <b>Adaptability.</b></li> <li>4. Traceability</li> </ol>

<p>"Is the origin of the requirement clearly stated?" relates to</p> <hr/>	<ol style="list-style-type: none"> <li>1. Traceability.</li> <li>2. Verifiability</li> <li>3. Adaptability</li> <li>4. Comprehensibility</li> </ol>
<pre>#include &lt;iostream&gt; using namespace std; int main () {     cout &lt;&lt; (3 &gt; 4 &amp;&amp; 3 &gt; 1) &lt;&lt; endl;     return 0; }</pre>	<ol style="list-style-type: none"> <li>1.0</li> <li>2.1</li> <li>3.error</li> <li>4.10</li> </ol>
<p>Inheritance is a way to</p>	<ol style="list-style-type: none"> <li>1. pass arguments and improve data hiding</li> <li>2. pass arguments and add features to existing classes without rewriting them</li> <li>3. make general classes into more specific classes and add features to existing classes without rewriting them</li> <li>4. improve data hiding and encapsulation.</li> </ol>
<p>Operator overloading is</p>	<ol style="list-style-type: none"> <li>1. making C++ operators work with objects</li> <li>2. giving new meaning to existing C++ operators</li> <li>3. making new C++ operators</li> <li>4. both (a) and (b)</li> </ol>
<p>A data structure where elements can be added or removed at either end but not in the middle</p>	<ol style="list-style-type: none"> <li>1. Linked lists</li> <li>2. Stacks</li> <li>3. Queues</li> <li>4. Deque</li> </ol>

In a extended-binary tree nodes with 2 children are called .....	1. Interior Node 2. Domestic Node 3. <b>Internal Node</b> 4. Inner Node
Which of the following statements are true?	1. Shortest remaining time first scheduling may cause starvation 2. Starvation may be caused by preemptive scheduling. 3. In terms of response time robin round is better than FCFS 4. <b>All of the above statements are true</b>
-----contains the 8-bit opcode currently being executed.	1. Memory Address Register 2. <b>Instruction Register</b> 3. Memory Buffer Register 4. Program Pointer
A binary digit is called a	1. <b>Bit</b> 2. Byte 3. Number 4. Character
A page fault	1. Occurs when there is an error in a specific page. 2. Occurs when a program accesses a page of main memory. 3. <b>Occurs when a program accesses a page not currently in main memory.</b> 4.

	Occurs when a program accesses a page belonging to another program.
A solution to the problem of external fragmentation is :	<ol style="list-style-type: none"> <li>1. <b>compaction</b></li> <li>2. smaller memory space</li> <li>3. larger memory space</li> <li>4. None of these</li> </ol>
A Stack-organised Computer uses instruction of	<ol style="list-style-type: none"> <li>1. Indirect addressing</li> <li>2. Two-addressing</li> <li>3. <b>Zero addressing</b></li> <li>4. Index addressing</li> </ol>
An address in main memory is called	<ol style="list-style-type: none"> <li>1. <b>Physical address</b></li> <li>2. Memory address</li> <li>3. Logical address</li> <li>4. Word address</li> </ol>
An interface that provides I/O transfer of data directly to and from the memory unit and peripheral is termed as	<ol style="list-style-type: none"> <li>1. DDA.</li> <li>2. Serial interface.</li> <li>3. BR.</li> <li>4. <b>DMA.</b></li> </ol>
Assembly language	<ol style="list-style-type: none"> <li>1. <b>uses alphabetic codes in place of binary numbers used in machine language</b></li> <li>2. is the easiest language to write programs</li> <li>3. need not be translated into machine language</li> <li>4. is the easiest language to solve problems</li> </ol>
BAT refers to...	<ol style="list-style-type: none"> <li>1. Boot Files</li> </ol>

	<p>2. Batch Files 3. Executable Files 4. None</p>
can be represented in a signed magnitude format and in a 1's complement format as (	<p>1. 100100 &amp; 011011 2. 100100 &amp; 111011 3. 011011 &amp; 100100 4. <b>111011 &amp; 100100</b></p>
Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called.	<p>1. <b>relative address mode</b> 2. implied mode. 3. index addressing mode. 4. register mode.</p>
If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be	<p>1. 11 bits 2. 21 bits 3. <b>16 bits</b> 4. 20 bits</p>
If the value V(x) of the target operand is contained in the address field itself, the addressing mode is	<p>1. immediate. 2. <b>direct</b> 3. indirect. 4. implied.</p>
In a vectored interrupt	<p>1. the branch address is assigned to a fixed location in memory 2. <b>the interrupting source supplies the branch information to the processor through an interrupt vector</b> 3.</p>

	<p>the branch address is obtained from a register in the processor</p> <p>4.</p>
In FIFO page replacement algorithm, when a page must be replaced:	<p>1. random page is chosen 2. newest page is chosen 3. <b>oldest page is chosen</b> 4. none of the mentioned</p>
Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called:	<p>1.fragmentation 2.<b>paging</b> 3.mapping 4.Starvation</p>
Requirements which are a consequence of organisational policies and procedures are termed as _____	<p>1. product requirement 2. External requirement 3. Process requiement 4. <b>Organisational requirements</b></p>
Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called... ?	<p>1. Static loading 2. Dynamic loading 3. <b>Dynamic linking</b> 4. Overlays</p>
Status bit is also called	<p>1. Binary bit 2. <b>Flag bit</b> 3. Signed bit 4. Unsigned bit</p>
Swap space exists in:	<p>1. CPU 2. <b>secondary memory</b> 3.</p>

	<p>primary memory 4. none of the mentioned</p>
The address of a page table in memory is pointed by:	<p>1. stack pointer 2. <b>page table base register</b> 3. page register 4. program counter</p>
The FIFO algorithm	<p>1. executes first the job that last entered the queue  2. <b>executes first the job that first entered the queue</b> 3. execute first the job that has been in the queue the longest  4. executes first the job with the least processor needs</p>
The idea of cache memory is based	<p>1. <b>on the property of locality of reference</b> 2. on the heuristic 90-10 rule 3. on the fact that references generally tend to cluster 4. based on main memory concept</p>
The memory unit that communicates directly with the CPU is called the	<p>1. <b>main memory</b> 2. Secondary memory 3. shared memory 4. auxiliary memory.</p>
The set of pages that a process is currently using is called as	<p>1. Program 2. Page Group</p>

	3. <b>Working Set</b> 4. <b>Working Group</b>
Von Neumann architecture is	1. <b>SISD</b> 2. <b>SIMD</b> 3. <b>MIMD</b> 4. <b>MISD</b>
What is the content of Stack Pointer (SP)?	1. Address of the current instruction 2. Address of the next instruction 3. <b>Address of the top element of the stack</b> 4. Size of the stack.
Which of the following is not a property of transactions?	1. Atomicity 2. <b>Concurrency</b> 3. Isolation 4. Redundancy
Which of the following is lowest in memory hierarchy?	1. Cache memory 2. <b>Secondary memory</b> 3. Registers 4. RAM
Working set model for page replacement is based on the assumption of:	1. <b>locality</b> 2. random access 3. globalization 4. modularity
(1010.011) <sub>2</sub> =	1.

	(10.365) <sub>10</sub> 2. <b>(10.375)<sub>10</sub></b> 3. (11.365) <sub>10</sub> 4. (11.375) <sub>10</sub>
(10110001101011.11110010) <sub>2</sub> in hexadecimal is	1. 2C5B.F2 2. <b>2C6B.F2</b> 3. 3D5B.F2 4. 3D6B.F2
(41) <sub>10</sub> in binary is	1. 101101 2. 101011 3. <b>101001</b> 4. 101101
(a+b+c)'=	1. <b>a'b'c'</b> 2. a'+b'+c' 3. abc 4. a+b+c
(x')' is	1. complement 2. <b>dual complement</b> 3. duality 4. reflection
-----Read the instruction from its memory location into the processor	1. <b>instruction fetch</b> 2. operand address calculation 3. operand fetch 4. operand store

-----contains the word to be stored in memory or just received from memory	1. Memory Buffer Register 2. Memory Address Register 3. Instruction Register 4. Program Counter
-9 with signed 2's complement representation is	1. 10001001 2. 11110110 3. <b>11110111</b> 4. 11110011
-9 with signed magnitude representation is	1. <b>10001001</b> 2. 11110110 3. 11110111 4. 11110011
..... is known as a greedy algorithm, because it chooses at each step the cheapest edge to add to subgraph S.	1. <b>Kruskal's algorithm</b> 2. Prim's algorithm 3. Dijkstra algorithm 4. Bellman ford algorithm
..... is generic and that can run on any OS.	1. Kernel level thread 2. <b>User level thread</b> 3. Both (1) & (2) 4. None of the above
10's complement of 012398 is	1. 987802 2. <b>987602</b> 3. 987902 4.

	987502
10's complement of 246700 is	1. <b>753300</b> 2. 753311 3. 753320 4. 754371
16x4 RAM indicates that memory location are	1. <b>4</b> 2. 8 3. 12 4. 16
2 left shifts are referred to as multiplication with	1. 2 2. <b>4</b> 3. 8 4. 16
2's complement of 1101100 is	1. 11100 2. <b>10100</b> 3. 110100 4. 100100
$2^3$ would have	1. three values 2. four values 3. six values 4. <b>eight values</b>
2x1 mux has	1. <b>1 select line</b> 2. 2 select lines 3. 3 select lines 4.

	4 select lines
3 bits full adder contains	1. 3 combinational inputs 2. 4 combinational inputs 3. 6 combinational inputs 4. <b>8 combinational inputs</b>
3x8 decoder will have	1. <b>3 inputs</b> 2. 4 inputs 3. 5 inputs 4. 6 inputs
4 bit gray code can be converted into	1. <b>4bit binary</b> 2. 3bit binary 3. 2bit binary 4. 1bit binary
4bit parallel adder produces output of	1. <b>1 bit</b> 2. 2 bits 3. 3 bits 4. 4 bits
7 segment generates output	1. a to b 2. a to f 3. <b>a to g</b> 4. a to z
7404 is a	1. single inverter 2. decimal inverter 3. <b>hex inverter</b> 4.

	binary inverter
8 input mux will have	1. 2 select lines <b>2.3 select lines</b> 3. 4 select lines 4. 5 select lines
<b>842 + 537 =</b>	1. <b>0001 0011 0111 0101</b> 2. 0111 0011 0111 0101 3. 0001 0111 0111 0101 4. 0001 0011 0111 0111
8723 in BCD	1. <b>1000_0111_0010_0011</b> 2. 1000_0001_0010_0011 3. 1000_0101_0010_0011 4. 1000_0111_0110_0011
9 in binary code is represented by	1. 1000 2. <b>1001</b> 3. 1010 4. 101
<b>9's complement of 012395 is</b>	1. 987641 2. 987631 3. 987621 4. <b>987601</b>
<b>9's complement of 546700 is</b>	1. <b>453299</b> 2. 453399 3. 543399 4. 543299

Value of first linked list index is:	1. 1 2. -1 3. <span style="background-color: yellow;">0</span> 4. 2
A min-heap is also known as:	1. decreasing heap 2. Low heap 3. descending heap 4. <span style="background-color: yellow;">Small heap</span>
One of the applications of a linked list:	1. <span style="background-color: yellow;">Polynomial evaluation</span> 2. Postfix expression evaluation 3. Prefix expression evaluation 4. Distance evaluation
The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:	1. ABFCDE 2. ADBFEC 3. <span style="background-color: yellow;">ABDECF</span> 4. ABDCEF
The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:	1. BUBBLE-SORT 2. INSERTION SORT 3. QUICK SORT 4. SHELL SORT
The time complexity of the following algorithm is: <pre>sum(a,n) { s=0; for i= 1 to n {   s=s+a[i];</pre>	1. $3n+2$ 2. $2n+3$ 3. <span style="background-color: yellow;"><math>n+1</math></span> 4. $2n+2$

<pre> } return s; } </pre>	
<p>Which of the following statements is false:</p>	<ul style="list-style-type: none"> <li>1.Arrays are static data structures</li> <li>2.data elements in linked list need not be stored in adjacent space in memory</li> <li>3.</li> <li><b>pointer stores the next data element of a list</b></li> <li>4.</li> <li>linked lists are collection of nodes that contain information part and the next pointer</li> </ul>
<p>1. A _____ tree is a tree where for each parent node, there is only one associated child node</p>	<ul style="list-style-type: none"> <li>1. balanced binary tree</li> <li>2. rooted complete binary tree</li> <li>3. complete binary tree</li> <li><b>degenerate tree</b></li> </ul>
<p>1. Which of the following statements hold true for binary trees?</p>	<ul style="list-style-type: none"> <li>1.</li> <li>The left subtree of a node contains only nodes with keys less than the node's key</li> <li>2.</li> <li>The right subtree of a node contains only nodes with keys greater than the node's key.</li> <li>3.</li> <li><b>The right subtree of a node contains only nodes with keys greater than the node's key and the left subtree of a node contains only nodes with keys less than the node's key</b></li> <li>4.</li> <li>Noth left and right subtree nodes contains only nodes with keys less than the node's key</li> </ul>
<p>1. Which of the following ways is a in-order traversal?</p>	<p>1.</p>

<p>1. Which of the following ways is a in-order traversal?</p>	<p>1. Root-&gt;left sub tree-&gt; right sub tree      2. Root-&gt;right sub tree-&gt; left sub tree      3. <b>left sub tree-&gt; Root-&gt;right sub tree</b>      4. right sub tree-&gt; Root-&gt;left sub tree</p>
<p>1. Which of the following ways is a post-order traversal?</p>	<p>1. Root-&gt;right sub tree-&gt; left sub tree      2. Root-&gt;left sub tree-&gt; right sub tree      3. right sub tree-&gt; left sub tree-&gt;Root      4. <b>left sub tree-&gt; right sub tree-&gt;root</b></p>
<p>1. Simplified form of the boolean expression <math>(X + Y + XY) (X + Z)</math> is</p>	<p>1. <math>X + Y + Z</math>      2. <math>XY + YZ</math>      3. <b><math>X + YZ</math></b>      4. <math>XZ + Y</math></p>
<p>1. Which of the following boolean expressions is not logically equivalent to all of the rest ?</p>	<p>1. <b><math>ab + (cd)' + cd + bd'</math></b>      2. <math>a(b+c) + cd</math>      3. <math>ab + ac + (cd)'</math>      4. <math>bd' + c'd' + ab + cd</math></p>
<p>1. Which of the following statements is true ?</p>	<p>1. <math>(A + B) (A + C) = AC + BC</math>      2. <math>(A + B) (A + C) = AB + C</math>      3. <math>(A + B)(A + C) = A + BC</math>      4. <math>(A + B) (A + C) = AC + B</math></p>

	<ol style="list-style-type: none"> <li>1. The main difference between JK and RS flip-flop is that</li> </ol>	<ol style="list-style-type: none"> <li>1. JK flip flop needs a clock pulse</li> <li>2. There is a feedback in JK flip-flop</li> <li>3. JK flip-flop accepts both inputs as 1</li> <li>4. JK flip-flop is acronym of Junction cathode multivibrator</li> </ol>
	<ol style="list-style-type: none"> <li>1. Which of the following unit will choose to transform decimal number to binary code ?</li> </ol>	<ol style="list-style-type: none"> <li>1. Encoder</li> <li>2. Decoder</li> <li>3. Multiplexer</li> <li>4. Counter</li> </ol>
	The clock signals are used in sequential logic circuits to	<ol style="list-style-type: none"> <li>1.Tell the time of the day</li> <li>2.Tell how much time has elapsed since the system was turned on</li> <li>3.Carry parallel data signals</li> <li>4.<b>Synchronize events in various parts of system</b></li> </ol>
	<ol style="list-style-type: none"> <li>1. Using 10's complement <math>72532 - 3250</math> is</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>69282</b></li> <li>2. 69272</li> <li>3. 69252</li> <li>4. 69232</li> </ol>
	<ol style="list-style-type: none"> <li>1. A Boolean function may be transformed into</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Logical Diagram</b></li> <li>2. Logical Graph</li> <li>3. Map</li> <li>4. Matrix</li> </ol>
	<ol style="list-style-type: none"> <li>1. A circuit that converts <math>n</math> inputs to <math>2^n</math> outputs is called</li> </ol>	1.

	<p>encoder</p> <p>2. <b>decoder</b></p> <p>3. comparator</p> <p>4. carry look ahead</p>
1. Adding 1001 and 0010 gives output of	<p>1. <b>1011</b></p> <p>2. 1111</p> <p>3. 0</p> <p>4. 1010</p>
1. Adjacent squares represents a	<p>1. circle</p> <p>2. variable</p> <p>3. <b>literal</b></p> <p>4. minterm</p>
1. BCD to seven segment is a	<p>1. Encoder</p> <p>2. <b>Decoder</b></p> <p>3. Comparator</p> <p>4. Carry Look Ahead</p>
1. Decimal digit in BCD can be represented by	<p>1. 1 input line</p> <p>2. 2 input lines</p> <p>3. <b>3 input lines</b></p> <p>4. 4 input lines</p>
1. Decoder is a	<p>1. <b>Combinational Circuit</b></p> <p>2. Sequential Circuit</p>

	3. Complex Circuit 4. Gate
1. Design procedure of combinational circuit involves	1. 4 steps  2. 5 steps  3. <b>6 steps</b>  4. 8 steps
1. Eight minterms will be used for	1. <b>three variables</b>  2. four variables  3. five variables  4. six variables
1. Encoders are made by three	1. AND gate  2. <b>OR gate</b> 3. NAND gate 4. XOR gate
1. Flip-flops can be constructed with two	1. <b>NAND gates</b> 2. OR gates 3. AND gates 4. NOT gates
1. In BCD no. 1010 has	1. meaning  2. <b>no meaning</b>

	3. value  4. Vcc
1. In design procedure input output values are assigned with	1. numeric values  2. <b>letter symbols</b>  3. 0's  4. 1's
1. In excitation table of D flipflop next state is equal to	1. present state  2. next state  3. input state  4. <b>D state</b>
1. Is it possible to find two algebraic expressions that specify same function	1. No 2. <b>Yes</b> 3. Maybe 4. Never
1. Magnitude comparator compares using operation of	1. Addition 2. Subtraction 3. Division 4. <b>Multiplication</b>
1. Minterms are arranged in map in a sequence of	1. binary sequence  2. <b>gray code</b>

	3. binary variables  4. BCD code
1. One operation that is not given by magnitude comparator.	1. Equal 2. Less 3. Greater 4. <b>Addition</b>
1. One that is not type of flip-flop is	1. JK 2. T 3. RS 4. <b>ST</b>
1. Output of AND gates in SOP is connected to	1. NOT gates  2. <b>OR gates</b>  3. AND gates  4. EX-OR gates
1. RS flip-flops are also called	1. RS Latch 2. <b>SR Latch</b> 3. TS Latch 4. ST Latch
1. Table that is not a part of asynchronous analysis procedure	1. transition table  2. state table  3. flow table

	4. excitation table
1. To perform product of maxterms Boolean function must be brought into	1. AND terms  2. OR terms 3. NOT terms 4. NAND terms
1. Two variables will be represented by	1. eight minterms 2. six minterms 3. five minterms 4. four minterms
1. X=1010100 and Y=1000011 using 2's complement X-Y is	1. 10111  2. <b>101101</b>  3. 10011  4. 10001
1. $x+y=z$ represents operation that is	1. AND 2. OR 3. NOT 4. EX-OR
"Kaizen" is a Japanese term meaning	1. Fool proof mechanism 2. Just-in-time (JIT) 3. Setting standards 4. <b>Continuous improvement</b>

"Taking the product to the customer"	<ol style="list-style-type: none"> <li>1. Push strategy</li> <li>2. Pull strategy</li> <li>3. Link strategy</li> <li>4. Final strategy</li> </ol>
_____ is an excellent example for sustainable fibre.	<ol style="list-style-type: none"> <li>1. Ceramic</li> <li>2. Polyester</li> <li>3. Wool</li> <li>4. Lyocell</li> </ol>
_____ refers unity of design in a garment	<ol style="list-style-type: none"> <li>1. Harmony</li> <li>2. Line</li> <li>3. Shape</li> <li>4. Form</li> </ol>
_____ is where profit is expressed as a percentage of the sale price.	<ol style="list-style-type: none"> <li>1. Break-down</li> <li>2. Break-up</li> <li>3. Markdown</li> <li>4. Markup</li> </ol>
machines allow manipulation of fabric on both sides of the needle for topstitching and lapped seaming	<ol style="list-style-type: none"> <li>1. Cylinder</li> <li>2. Flatbed</li> <li>3. Post</li> <li>4. Raised bed</li> </ol>
_____ are made of durable materials are permanently sewn into garments for production information	<ol style="list-style-type: none"> <li>1. Labels</li> <li>2. Tags</li> <li>3. Stringers</li> <li>4. Care taps</li> </ol>

<p>_____ creating a pattern by pinning fabric to a dressmaker's dummy and manipulating it until the look is achieved.</p>	<ol style="list-style-type: none"> <li>1. Flat patterning</li> <li>2. <b>Draping</b></li> <li>3. Pinning</li> <li>4. Dart manipulation</li> </ol>
<p>_____ date is the merchandiser's deadline for having all prototypes and pricing for a new product line completed.</p>	<ol style="list-style-type: none"> <li>1. <b>Line preview</b></li> <li>2. Deadline</li> <li>3. Line presentation</li> <li>4. Line releases</li> </ol>
<p>_____ is a diagram of a precise arrangement of pattern pieces for a specific style and the sizes to be cut from a single spread.</p>	<ol style="list-style-type: none"> <li>1. Plotter</li> <li>2. <b>Marker</b></li> <li>3. Design</li> <li>4. Grading</li> </ol>
<p>_____ is a guide containing steps to make a garment</p>	<ol style="list-style-type: none"> <li>1. Thimble</li> <li>2. <b>Needle threader</b></li> <li>3. Sewing gauge</li> <li>4. Pattern</li> </ol>
<p>_____ is the application of computer technology to the development of a garment to the point of production.</p>	<ol style="list-style-type: none"> <li>1. SAM</li> <li>2. CAD</li> <li>3. <b>CIM</b></li> <li>4. CIF</li> </ol>
<p>_____ is the feel, drape and degree of stiffness and softness of the fabric, it also creates a visual effect upon the wearer.</p>	<ol style="list-style-type: none"> <li>1. <b>Texture</b></li> <li>2. Surface effect</li> <li>3. Hairiness</li> <li>4. Hang</li> </ol>

<p>_____ is the natural polymer that makes up the living cells of all vegetation.</p>	<ol style="list-style-type: none"> <li>1. Enzymes</li> <li>2. Keratin</li> <li>3. <b>Cellulose</b></li> <li>4. Lumen</li> </ol>
<p>_____ occurs when pricing is used as the basis to make consumers “feel more favourable” about a product</p>	<ol style="list-style-type: none"> <li>1. Value based pricing</li> <li>2. Discount pricing</li> <li>3. Membership pricing</li> <li>4. <b>Psychological pricing</b></li> </ol>
<p>_____ process improves the yarn strength, evenness and decreases the imperfections due to removal of short fibres and making the fibres more parallel.</p>	<ol style="list-style-type: none"> <li>1. Carding</li> <li>2. <b>Combing</b></li> <li>3. Drawing</li> <li>4. Drafting</li> </ol>
<p>_____ refers to the total number of loops in a measured area of fabric.</p>	<ol style="list-style-type: none"> <li>1. <b>Stitch density</b></li> <li>2. Stitch length</li> <li>3. Areal density</li> <li>4. Course length</li> </ol>
<p>_____ retailing offers merchandises to consumers in a catalog as directional format</p>	<ol style="list-style-type: none"> <li>1. <b>Mail order</b></li> <li>2. E- Commerce</li> <li>3. E-retailing</li> <li>4. Chain store</li> </ol>
<p>_____ seams are those in which all seam allowance are contained within the finished seam</p>	<ol style="list-style-type: none"> <li>1. Mock seam</li> <li>2. <b>Self-enclosed seam</b></li> <li>3. Lap seam</li> <li>4. Bound Seam</li> </ol>

<p>_____ series programme provides standards for data documentation and audits as part of a quality management system.</p>	<ol style="list-style-type: none"> <li>1. TQM</li> <li>2. QMS</li> <li>3. <b>ISO</b></li> <li>4. AQL</li> </ol>
<p>_____ special types of forms for data collection.</p>	<ol style="list-style-type: none"> <li>1. Spec sheet</li> <li>2. <b>Check sheet</b></li> <li>3. Work sheet</li> <li>4. Make sheet</li> </ol>
<p>_____ standards are designed to help organize QA/QC activities.</p>	<ol style="list-style-type: none"> <li>1. ISO 14000</li> <li>2. ISO 6000</li> <li>3. ISO 8583</li> <li>4. <b>ISO 9000</b></li> </ol>
<p>_____ statistically calculated number of sample items to inspect and the number of defects allowed.</p>	<ol style="list-style-type: none"> <li>1. <b>Sampling Plan</b></li> <li>2. Scheduling plan</li> <li>3. Cutting plan</li> <li>4. Inspection plan</li> </ol>
<p>_____ also known as dressmaker's dummies, are padded so that material may be pinned to them:</p>	<ol style="list-style-type: none"> <li>1. Pinning mannequin</li> <li>2. Mannequin</li> <li>3. <b>Dress form</b></li> <li>4. Character form</li> </ol>
<p>_____ is the systematic gathering, recording, and analyzing of data about problems relating to the marketing of goods and services.</p>	<ol style="list-style-type: none"> <li>1. <b>Marketing Research</b></li> <li>2. Production planning</li> <li>3. Process planning</li> <li>4. Purchase planning</li> </ol>

<p>_____ is a difference between actual and garment measurement at any given point</p>	<ol style="list-style-type: none"> <li>1. Set</li> <li>2. Ease</li> <li>3. Seam</li> <li>4. Allowance</li> </ol>
<p>_____ is the angle at which the cutting device contacts the spread.</p>	<ol style="list-style-type: none"> <li>1. 1800</li> <li>2. 900</li> <li>3. Cutting pitch</li> <li>4. Longitudinal</li> </ol>
<p>A _____ is a stock of fabric plies that have been prepared for cutting</p>	<ol style="list-style-type: none"> <li>1. Lay</li> <li>2. Marker</li> <li>3. Fabric</li> <li>4. Bundle</li> </ol>
<p>A merchandise _____ is a collection of various styles, quantities and prices related merchandise, usually grouped under one classification within a department.</p>	<ol style="list-style-type: none"> <li>1. Parts</li> <li>2. Assortment</li> <li>3. Segmentation</li> <li>4. Market</li> </ol>
<p>For pigment printing, which following type of thickener system is preferably used</p>	<ol style="list-style-type: none"> <li>1. Oil-in-water</li> <li>2. Water-in-oil</li> <li>3. Sodium alginate</li> <li>4. Guar gum</li> </ol>
<p>In a sizing machine the number of lease rods is given by _____.</p>	<ol style="list-style-type: none"> <li>1. Equal to number of warperse beams</li> <li>2. number of warperse beams - 1</li> <li>3. Number of warperse beams - 2</li> </ol>

	4. not depends on warperse beams
In the delivery roller nip point, fibres are getting twisted together and the yarn is formed.	1. Twisting 2. Parallelisation 3. <b>Spinning triangle</b> 4. Spinning bar
Kalamkari is the most ancient industry in _____.	1. <b>Andhra Pradesh</b> 2. Karnataka 3. Madhya Pradesh 4. Tamil Nadu
Label of international association for research and testing in the field of textile ecology is given by _____ eco label.	1. ECO-TEX 2. ECO Steam 3. ECOS 4. <b>OEKO-TEX</b>
Lead-time means	1. Total time taken to Produce Sample 2. Time taken to Process the Garment 3. <b>Time from conforming to shipping the order</b> 4. Stitching Time alone
Major challenges in material management is _____	1. <b>consistent flow of materials for production</b> 2. campus planning 3. cost of raw material 4. marketing cost

<p>Maximum how many thread will be using in Over Lock machine.</p>	<ol style="list-style-type: none"> <li>1.</li> <li>3nos</li> <li>2.</li> <li>4nos</li> <li>3.</li> <li>5nos</li> <li>4.</li> <li><b>6nos</b></li> </ol>
<p>Pareto charts are used to _____ .</p>	<ol style="list-style-type: none"> <li>1.</li> <li>Identify inspection points in a process</li> <li>2.</li> <li>Outline production schedules</li> <li>3.</li> <li><b>Organize errors, problems or defects</b></li> <li>4.</li> <li>Show material flow</li> </ol>
<p>PDM stands for _____</p>	<ol style="list-style-type: none"> <li>1.</li> <li>Product development management</li> <li>2.</li> <li>Product design management</li> <li>3.</li> <li><b>Product data Management</b></li> <li>4.</li> <li>Product decoding management</li> </ol>
<p>The business of buying fashion merchandise from a variety of resources and reselling it to ultimate consumers _____ .</p>	<ol style="list-style-type: none"> <li>1.</li> <li>Wholesalers</li> <li>2.</li> <li><b>Fashion retailing</b></li> <li>3.</li> <li>Marketing</li> <li>4.</li> <li>Merchandising</li> </ol>
<p>The count of yarn is 20 Ne and its equivalent count in tex system will be _____ .</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>31 tex</b></li> <li>2.</li> <li>32 tex</li> <li>3.</li> <li>29.5 tex</li> <li>4.</li> <li>30.7 tex</li> </ol>
<p>The crop cultivated without pesticides and chemicals, but using synthetic fertilizers are said to be _____ one.</p>	<ol style="list-style-type: none"> <li>1.</li> <li>Eco-friendly</li> <li>2.</li> </ol>

	Organic 3. <b>In-organic</b> 4. Sustainable
The optimum conditions for bleaching cotton with hydrogen peroxide are	1. pH 7, 60°C 2. pH 7, boil 3. pH 10, 60°C 4. <b>pH 10, boil</b>
The toddlers apparel, for the child who has learned to walk are sized:	1. <b>2T,3T,4T</b> 2. 4 to 7 3. 3,6 and 9 months 4. 4X to 6X
This machine sews a seam, cuts both pieces of fabric about 1/4" from the seam, and overcast stitches all in a single pass.	1. Blind stitch machine 2. Walking foot machine 3. Zig zag machine 4. <b>Serger</b>
Two thread chain stitch refer _____ classes.	1. 300 2. <b>400</b> 3. 301 4. 401
Uniformity ratio is the ratio of:	1. 2.5% span length and 50% span length 2. <b>50% span length and 2.5% span length</b> 3. Mean length and upper half mean length 4. Upper half mean length and mean length

Utilization of _____ fibre in clothing has added to the fast depleting of forests.	1. Cotton 2. Wool 3. Silk 4. <b>rayon</b>
Which among them is not a good weave absorbent towel?	1. Honeycomb 2. <b>Herringbone</b> 3. Huckaback 4. Terry
_____ may result from friction among materials and spreading equipment	1. Rly alignment 2. <b>Static Electricity</b> 3. Tension 4. Shrink
Expand PBS:	1. <b>Progressive bundle system</b> 2. Production bundle sets 3. Promoting business sales 4. Product buying status
Violet (purple) is made up of the combination of _____ .	1. <b>Red and Blue</b> 2. Red and Green 3. Red and Yellow 4. Red and Orange
_____ is the description of the database	1. <b>schema</b> 2. schema construct 3. schema evolution 4. snapshot

The advantage of DBMS over file systems is _____.	1. self describing nature 2. Logical data independence 3. multiple user 4. Physical data independence
The set of all attributes of a relation is called default _____.	1. Primary Key  2. Super Key 3. Foreign Key 4. Alternate key
The _____ identifies the language tokens in the text of the query.	1. Scanner  2. Parser 3. Validation 4. query tree
During _____ state, transaction issues read and write operations.	1. Active  2. committed 3. Partially committed 4. failed
_____ FD have same set of attributes on both sides.	1.  Trivial  2. non-trivial 3. Fully 4. Parital

<p>_____ join requires that the two join attributes have the same name in both relations.</p>	<ol style="list-style-type: none"> <li>1. Theta Join</li> <li>2. Equi join</li> <li>3. Self join</li> <li>4. <b>Natural join</b></li> </ol>
<p>In _____ Schedule only one transaction at a time is active.</p>	<ol style="list-style-type: none"> <li>1. Conflict</li> <li>2. view</li> <li>3. <b>serial</b></li> <li>4. non serial</li> </ol>
<p>The attributes in foreign key and primary key have the same _____.</p>	<ol style="list-style-type: none"> <li>1. Number of tuples</li> <li>2. <b>Number of attributes</b></li> <li>3. Domain</li> <li>4. Symbol</li> </ol>
<p>In _____ Schedule transactions are executing with interleaved process.</p>	<ol style="list-style-type: none"> <li>1. Conflict</li> <li>2. view</li> <li>3. <b>serial</b></li> <li>4. non serial</li> </ol>
<p>Minimal super key of a relation is called _____.</p>	<ol style="list-style-type: none"> <li>1. Primary Key</li> <li>2. <b>Super Key</b></li> <li>3. Foreign Key</li> <li>4. Alternate key</li> </ol>
<p>The combination of selection and Cartesian product operators is _____ operator</p>	<ol style="list-style-type: none"> <li>1. Division</li> <li>2. Set difference</li> </ol>

	3. <b>Join</b> 4. Union
The participation constraints and cardinality ratio together called as _____ constraints.	1. <b>Structural</b> 2. Un Structural 3. Integrity 4. Referential
The complexity of binary search algorithm is	1. $O(n)$ 2. <b><math>O(\log n)</math></b> 3. $O(\log n)$ 4. $O(n \log n)$
The complexity of Bubble sort algorithm is	1. $O(n)$ 2. $O(\log n)$ 3. <b><math>O(n^2)</math></b> 4. $O(n \log n)$
The complexity of Insertion sort algorithm is	1. $O(n)$ 2. <b><math>O(n^2)</math></b> 3. $O(\log n)$ 4. $O(n \log n)$
The complexity of Merge sort algorithm is	1. $O(n)$ 2. <b><math>O(n \log n)</math></b> 3. $O(n^2)$ 4. $O(\log n)$
Which of the following sorting algorithms does not have a worst case running time of $O(n^2)$	1. Insertion sort

	2. <b>Merge sort</b> 3. Quick sort 4. Bubble sort
Apriory algorithm analysis does not include	1. Time Complexity 2. Space Complexity 3. <b>Program Complexity</b> 4. Time and Space Complexity
Match the following – (1) Bubble Sort (A) $O(n)$ (2) Shell Sort (B) $O(n^2)$ (3) Selection Sort (C) $O(n \log n)$	1. $1 \rightarrow A, 2 \rightarrow B, 3 \rightarrow C$ 2. $1 \rightarrow B, 2 \rightarrow C, 3 \rightarrow A$ 3. $1 \rightarrow A, 2 \rightarrow C, 3 \rightarrow B$ 4. $1 \rightarrow B, 2 \rightarrow A, 3 \rightarrow C$
To represent hierarchical relationship between elements, which data structure is suitable?	1. Deque 2. Priority Queue 3. <b>Tree</b> 4. All of these
A technique called _____ is used to create a subnetting effect	1. ARP 2. RARP 3. <b>proxy ARP</b> 4. none of the above
In _____ forwarding, the destination address is a network address in the routing table	1. next-hop 2. <b>network-specific</b> 3. host-specific 4. default
In IPv4 header, an HLEN value of decimal 10 means _____.	1.

	<p>A) there are 10 bytes of options      2.      there are 40 bytes of options      3.      there are 10 bytes in the header      4.  <b>there are 40 bytes in the header</b></p>
The Open Shortest Path First (OSPF) protocol is an intradomain routing protocol based on _____ routing.	<p>1.      distance vector      2.  <b>link state</b>      3.      path vector      4.      link path</p>
UDP packets are encapsulated in _____.	<p>1.      an Ethernet frame      2.      an TCP segment      3.  <b>an IP datagram</b>      4.      IP header</p>
What is the first address of a block of classless addresses if one of the addresses is 12.2.2.76/27?	<p>1.      12.2.2.0      2.      12.2.2.32      3.  <b>12.2.2.64</b>      4.      none of these</p>
An adaptive sorting algorithm –	<p>1.      adapts to new computers      2.  <b>takes advantage of already sorted elements</b>      3.      takes input which is already sorted      4.      Take input which is unsorted</p>
In a MIN-Heap	<p>1.  <b>parent nodes have values greater than or equal to their childs</b></p>

	<p>2. parent nodes have values less than or equal to their childs 3.</p> <p>both statements are true</p> <p>4.</p> <p>both statements are wrong</p>
A linked list in which last node contain the link of the first node is called	<p>1.</p> <p>Singly linked list</p> <p>2.</p> <p>Doubly linked list</p> <p>3.</p> <p>Circular linked list</p> <p>4.</p> <p>Array</p>
Example of primitive recursion is	<p>1.</p> <p>Tower of Hanoi</p> <p>2.</p> <p>Ackermann's function</p> <p>3.</p> <p>Tower of Hanoi and Ackermann's function both</p> <p>4.</p> <p>None</p>
In linked lists there are no NULL links in:	<p>1.</p> <p>Singly linked list</p> <p>2.</p> <p>Doubly linked list</p> <p>3.</p> <p>Circular linked list</p> <p>4.</p> <p>linear linked list</p>
Stack works on the principles:	<p>1.</p> <p>FCFS</p> <p>2.</p> <p>LIFO</p> <p>3.</p> <p>FCFS and LIFO</p> <p>4.</p> <p>SJF</p>
The complexity of the average case of an algorithm is	<p>1.</p> <p>Much more complicated to analyze than that of worst case</p> <p>2.</p> <p>Much more simpler to analyze than that of worst case</p>

	3. Sometimes more complicated and some other times simpler than that of worst case 4. None of these
The condition Top= -1 indicates that	1. <b>Stack is empty</b> 2. Stack is full 3. Stack has only one element 4. stack has two elements
Which of the following is not the required condition for binary search algorithm?	1. The list must be sorted 2. There should be the direct access to the middle element in any sub list 3. <b>There must be mechanism to delete and/or insert elements in list</b> 4.list is unsorted
Which of the following statements are wrong statements?	1. Array is a linear data structure. 2. Every element of array must be of same type. 3. <b>In array, Insert element is called push operation.</b> 4. Array is homogenous.
Which of the following traversal techniques lists the nodes of a binary search tree in ascending order?	1. Post-order 2. <b>In-order</b> 3. Pre-order 4. Pre-Post order
A method to provide secure transmission of email is called _____.	1. TLS 2. SA

	3. IPSec 4. <b>PGP</b>
A packet whose destination is outside the local TCP/IP network segment is sent to .....	1. File server 2. DNS server 3. DHCP server 4. <b>Default gateway</b>
As the data packet moves from the upper to the lower layers, headers are _____.	1. <b>Added</b> 2. Removed 3. Rearranged 4. Modified
Distance vector routing algorithm is a dynamic routing algorithm. The routing tables in distance vector routing algorithm are updated.....	1. automatically 2. by server 3. <b>by exchanging information with neighbour nodes</b> 4. with back up database
Which of the following field of the TCP header tells how many bytes may be sent starting at the byte acknowledged?	1. TCP header length 2. <b>Window size</b> 3. Acknowledgement number 4. Urgent pointer
Binary search tree has best case run-time complexity of $O(\log n)$ . What could the worst case?	1. <b><math>O(n)</math></b> 2. $O(n^2)$ 3. $O(n^3)$ 4. $O(n \log n)$
In C programming, when we remove an item from bottom of the stack, then –	1. The stack will fall down

	2. <b>Stack will rearrange items</b> 3. It will convert to LIFO 4. This operation is not allowed
Quick sort algorithm is an example of	1. Greedy approach 2. Improved binary search 3. Dynamic Programming 4. <b>Divide and conquer</b>
Re-balancing of AVL tree costs	1. $O(1)$ 2. <b><math>O(\log n)</math></b> 3. $O(n)$ 4. $O(n^2)$
Which one of the below mentioned is not a linear data structure	1. Queues 2. Stacks 3. Arrays 4. <b>Trees</b>
_____ is a step-by-step procedure for calculation	1. Data Structure 2. Abstract Data Type 3. Primitive Data Type 4. <b>Algorithm</b>
A binary tree is generated by inserting in order of the following integers: 50, 15, 62, 5, 20, 58, 3, 8, 37, 60, 24 the number of nodes in the left of the root respectively is	1. $(3,7)$ 2. $(7,3)$ 3. $(4,6)$ 4. <b><math>(6,4)</math></b>
A complete binary tree of level 5 has how many nodes?	1. 15

A complete binary tree of level 5 has how many nodes?	2. <b>63</b> 3. 25 4. 30
A doubly linked list facilitates list traversal in	1. Single direction 2. <b>Any direction</b> 3. Circular direction 4. Revere direction
A full binary tree with n leaves contains _____ nodes	1. n 2. $\log n$ 3. <b><math>2n - 1</math></b> 4. $2n+1$
A full binary tree with n non-leaf nodes contains _____ nodes	1. $\log n$ 2. 2n 3. $2n - 1$ 4. <b><math>2n + 1</math></b>
A linked list is which type of data structure.	1. <b>Linear</b> 2. Non Linear 3. Hierarchical 4. None
A mathematical-model with a collection of operations defined on that model is called	1. Data structure 2. <b>Abstract Data Type</b> 3. Pimitive Data Type 4. Algorithm
A multi-dimensional array array[0:2, 10:20, 3:4, -10:2] contains _____ elements.	1. 240

	2. <b>858</b> 3. 390 4. 160
A node carries information regarding	1. Data 2. Link 3. <b>Data and Link</b> 4. None
A singly linked list facilitates list traversal in	1. <b>Single direction</b> 2. Any direction 3. Circular direction 4. Reverse direction
A two-dimensional array array[1:3, 1:3] contains _____ elements.	1. 3 2. 6 3. <b>9</b> 4. 7
An algorithm must be generic enough to solve all problems of a particular class. This property is termed as _____.	1. Finiteness 2. Definiteness 3. <b>Generality</b> 4. Effectiveness
Answer of following postfix expression: 2,3,10+*8,2/-	1. 20 2. <b>22</b> 3. 23 4. 25
Balancing symbol is a application of _____.	1. Singly linked list

	2. Doubly linked list 3. Doubly linked list 4. <span style="background-color: yellow;">Linked stack</span>
Binary search algorithm cannot be applied to	1. sorted linked list 2. sorted binary trees 3. sorted linear array 4. <span style="background-color: yellow;">pointer array</span>
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many children does the root have?	1. <span style="background-color: yellow;">2</span> 2. 4 3. 8 4. 9
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many descendants does the root have?	1. 2 2. 4 3. <span style="background-color: yellow;">8</span> 4. 9
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many leaves does it have?	1. 2 2. <span style="background-color: yellow;">4</span> 3. 7 4. 9
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many of the nodes have at least one sibling?	1. 2 2. 4 3. <span style="background-color: yellow;">3</span> 4. 9
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30,	1. 2

Children(3) = 7, Children(10) = 40. What is the depth of the tree?	2. 3 3. 4 4. 9
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. What is the value stored in the parent node of the node containing 30?	1. 2 2. 10 3. <b>11</b> 4. 14
Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. Which pair of nodes have equal number of descendants?	1. (2,11) 2. <b>(1,3)</b> 3. (10,30) 4. (7,14)
For the array A[1:u1, 1:u2] where $\alpha$ is the base address, A[i,1] has its address given by	1. $(i - 1)u2$ 2. $\alpha + (i - 1)u2$ 3. $\alpha + i * u2$ 4. $\alpha + (I - 1) * u1$
In a linked list, the pointer of the last node contains	1. Link to the first node 2. <b>NULL</b> 3. Link 4. Pointer to the tail node
In a Single Link List _____ node contains no links.	1. First 2. <b>Last</b> 3. Last but one 4. middle
In polynomial manipulation, nodes consists of three field representing	1.

	<p>Coefficient, exponential and link</p> <p>2.</p> <p>Previous item link, data item, next item link</p> <p>3.</p> <p>Coefficient, data item and link</p> <p>4.</p> <p>Link, Coefficient and exponential</p>
In Single Linked List a node contain minimum how many fields(assuming one for data).	<p>1.</p> <p>2</p> <p>2.</p> <p>3</p> <p>3.</p> <p>1</p> <p>4.</p> <p>0</p>
In which linked list, nodes in form of ring?	<p>1.</p> <p>Singly linked list</p> <p>2.</p> <p>Doubly linked list</p> <p>3.</p> <p><b>Circular linked list</b></p> <p>4.</p> <p>Linked Stack</p>
In which notation operator comes between operand?	<p>1.</p> <p><b>Infix</b></p> <p>2.</p> <p>Inorder</p> <p>3.</p> <p>Postfix</p> <p>4.</p> <p>Prefix</p>
In which notation operator is comes after operand?	<p>1.</p> <p>Infix</p> <p>2.</p> <p><b>Postfix</b></p> <p>3.</p> <p>Prefix</p> <p>4.</p> <p>Preorder</p>
In which notation operator is comes before operand?	<p>1.</p> <p>Infix</p> <p>2.</p> <p>Postfix</p> <p>3.</p> <p>Postorder</p>

	4. Prefix
Input instance for which algorithm take maximum possible time is called	1. <b>Worst Case</b> 2. Best Case 3. Average Case 4. Null Case
Input instance for which algorithm take minimum possible time is called	1.Worst case 2. <b>Best case</b> 3. Average case 4. Null Case
Linear order linked list is provided through _____	1. variables 2. arrays 3. <b>Pointer</b> 4. Strings
Linked list START=NULL is _____	1. <b>Underflow</b> 2. Overflow 3. Full 4. Empty
Queue works on the principles:	1. <b>FCFS</b> 2. LIFO 3. FCFS and LIFO 4. Neither FCFS nor LIFO
Representation of data structure in memory is known as:	1. Recursive 2. <b>Abstract data type</b> 3. Storage structure 4. File structure

<p>Single link list performs which of the following methods 1) Insertion 2) Modification 3) Searching</p>	<ol style="list-style-type: none"> <li>1.</li> <li>1 and 2</li> <li>2.</li> <li>2 and 3</li> <li>3.</li> <li>1 and 3</li> <li>4.</li> <li><b>1, 2, 3</b></li> </ol>
<p>The average case occur in linear search algorithm</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>When item is somewhere in the middle of the array</b></li> <li>2.</li> <li>When item is not in the array at all</li> <li>3.</li> <li>When item is the last element in the array</li> <li>4.</li> <li>When item is the last element in the array or is not there at all</li> </ol>
<p>The first step of development of an algorithm is</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>Problem analysis</b></li> <li>2.</li> <li>Problem statement</li> <li>3.</li> <li>Algorithm analysis</li> <li>4.</li> <li>Implementation</li> </ol>
<p>The infix expression for the postfix expression : 5,6,2+*12,4/-</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>5*(6+2)-12/4</b></li> <li>2.</li> <li>5+6-2*12/4</li> <li>3.</li> <li>(5+6)-2/12*4</li> <li>4.</li> <li>None</li> </ol>
<p>The list with no node is called as</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>Empty list</b></li> <li>2.</li> <li>Zero list</li> <li>3.</li> <li>Null list</li> <li>4.</li> <li>Vacant list</li> </ol>
<p>The maximum number of nodes on level i of a binary tree is</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>2<sup>i</sup></b></li> <li>2.</li> <li>3<sup>i</sup></li> </ol>

	3. $i + 1$ 4. $2i+2$
The number of elements in array $\text{Array}[1:u]$ is given by	1. $(1 - u)$ 2. <span style="background-color: yellow;">(u)</span> 3. $(u - 1 + 1)$ 4. $(u - 1 - 1)$
The number of elements in array $\text{Array}[l1:u1, l2:u2, l3:u3]$ is given by	1. $(u1 - l1 - 1)(u2 - l2 - 1)(u3 - l3 - 1)$ 2. $(u1 * u2 * u3)$ 3. $(u1 - l1)(u2 - l2)(u3 - l3)$ 4. <span style="background-color: yellow;">(u1 - l1 + 1)(u2 - l2 + 1)(u3 - l3 + 1)</span>
The number of elements in array $\text{Array}[l1:u1, l2:u2]$ is given by	1. $(u1 - l1 - 1)(u2 - l2 - 1)$ 2. $(u1 * u2)$ 3. $(u1 - l1)(u2 - l2)$ 4. <span style="background-color: yellow;">(u1 - l1 + 1)(u2 - l2 + 1)</span>
The number of swapping needed to sort the numbers 8, 22, 7, 9, 31, 19, 5, 13 in ascending order, using insertion sort is	1. 11 2. 12 3. 13 4. <span style="background-color: yellow;">14</span>
The postfix expression for the infix expression : $a+b*c/d$	1. <span style="background-color: yellow;">abc*d/+</span> 2. $a*bcd/+$ 3. $ab*cd/+$ 4. $abcd*/+$
The prefix expression for the infix expression : $a+b*c/d$	1. $+ab*c/d$

	2. $+^*ab/cd$ 3. $+a^*b/cd$ 4. <b>None</b>
The term MAX and MIN is related to the	1. Stacks 2. Queues 3. <b>Heaps</b> 4. Splays
The time complexity of linear search algorithm over an array of n element is	1. $O(\log_2 n)$ 2. <b><math>O(n)</math></b> 3. $O(n \log_2 n)$ 4. $O(n^2)$
The time complexity of the algorithm in a best case would be expressed as	1. <b><math>O(1)</math></b> 2. $O(n)$ 3. $O(n^2)$ 4. $O(n+1)$
The Worst case occur in linear search algorithm when	1. Item is somewhere in the middle of array 2. Item is not in the array at all 3. Item is the last element in the array 4. <b>Item is the last element in the array or is not there at all</b>
Traversing binary tree first root and then left and right subtrees called _____ traversal.	1. Postorder 2. <b>Preorder</b> 3. In order 4. Binary order
Type of storage is used to represent Lists	1.

	Random 2. Sequential 3. <b>Dynamic</b> 4. Logical
What is the worst-case time for serial search finding a single item in an array?	1. Constant time 2. Logarithmic time 3. <b>Linear time</b> 4. Quadratic time
What kind of list is best to answer questions such as "What is the item at position n?"	1. <b>Lists implemented with an array</b> 2. Doubly-linked lists 3. Singly-linked lists 4. Doubly-linked or singly-linked lists are equally best
Which among the following pairs of operations is supported by an array ADT?	1. <b>Store and Retrieve</b> 2. Insert and Delete 3. Copy and Delete 4. Append and Copy
Which are the correct array initialization statements?	1. <b>int A[3]={1,2,3};</b> 2. int A[3]={123}; 3. int A[3]=""123"; 4. int A[3]=1,2,3;
Which case analysis appropriate when the response time of the algorithm is critical?	1. <b>Worst case</b> 2. Best case 3. Average Case 4. Null case

Which data structure will you use to evaluate prefix notation?	1. Queue 2. <b>Stack</b> 3. Array 4. Linked List
Which is not an application of array?	1. Dense matrix 2. Ordered list 3. Sparse Matrix 4. <b>Linked List</b>
Which of the following case does not exist in complexity theory	1. Best case 2. Worst case 3. Average case 4. <b>Null case</b>
Which of the following is considered an Abstract Data Type?	1. Array 2. reference variable 3. any of the primitive types (e.g., int, double, char) 4. <b>Stack</b>
Which of the following is not a application of Stack?	1. Evaluation of Polish notation 2. Tower of Hanoi 3. Stack Machine 4. <b>None</b>
Which of the following is not a limitation of binary search algorithm?	1. Must use a sorted array 2. Requirement of sorted array is expensive when a lot of insertion and deletions are needed 3.

	<p>There must be a mechanism to access middle element directly</p> <p>4.</p> <p><b>Binary search algorithm is not efficient when the data elements are more than 1000.</b></p>
Which of the following is not the operation on Queue?	<p>1.</p> <p>Insertion</p> <p>2.</p> <p>Deletion</p> <p>3.</p> <p><b>Updating</b></p> <p>4.</p> <p>Displaying</p>
Which of the following is the application of the singly linked list?	<p>1.</p> <p>Sparse matrix</p> <p>2.</p> <p>Polish notation</p> <p>3.</p> <p>Tower of Hanoi</p> <p>4.</p> <p><b>Polynomial Addition</b></p>
Which of the following is the condition of circular queue overflow?	<p>1.</p> <p>Front=0 and Rear=size</p> <p>2.</p> <p>Front+1=Rear</p> <p>3.</p> <p>Both a &amp; b</p> <p>4.</p> <p><b>Neither a nor b</b></p>
Which of the following name related to stacks?	<p>1.</p> <p>Push</p> <p>2.</p> <p>Pop</p> <p>3.</p> <p>Top</p> <p>4.</p> <p><b>All</b></p>
Which of the following pair of data structures are both non-linear type?	<p>1.</p> <p>Stack, Graph</p> <p>2.</p> <p>Stack, Linked List</p> <p>3.</p> <p>Tree, Linked List</p> <p>4.</p> <p><b>Tree, Graph</b></p>

Which of the following sorting method is unstable?	1. Insertion 2. Bubble 3. Selection 4. <b>Heap</b>
Which of the following statement is false?	1. Every tree is a bipartite graph 2. <b>A tree contains cycle</b> 3. A tree with n nodes contains n-1 edges 4. A tree is connected graph
Which of the following will contain more memory space?	1. Singly linked list 2. <b>Doubly linked list</b> 3. Array 4. Circular linked list
ER model shows the _____	1. <b>Static view</b> 2. Functional view 3. Dynamic view 4. All the above
_____ is a measure of the degree of interdependence between modules	1. Cohesion 2. <b>Coupling</b> 3. Corrosion 4. None of the mentioned
QFD stands for	1. quality function design 2.

	<p>quality function development 3. <b>quality function deployment</b></p> <p>4. none of the mentioned</p>
<p>The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on what, the _____ phase which focuses on how and the _____ phase which focuses on change 1. Support, 2. Development, 3. Definition</p>	<p>1. 1, 2, 3 2. 2, 1, 3 3. <b>3, 2, 1</b> 4. 3, 1, 2</p>
<p>What are the four dimensions of Dependability</p>	<p>1. Usability, Reliability, Security, Flexibility 2. Availability, Reliability, Maintainability, Security</p> <p>3. <b>Availability, Reliability, Security, Safety</b></p> <p>4. Security, Safety, Testability, Usability</p>
<p>Which is not one of the types of prototype of Prototyping Model?</p>	<p>1. Horizontal Prototype 2. Vertical Prototype 3. <b>Diagonal Prototype</b> 4. Domain Prototype</p>
<p>Which one of the following models is not suitable for accommodating any change?</p>	<p>1. Build &amp; Fix Model 2. Prototyping Model 3. <b>RAD Model</b></p>

	4. <b>Waterfall Model</b>
Which of the following data structure can't store the non-homogeneous data elements?	1. <b>Arrays</b> 2. Records 3. Pointers 4. None
Given two sorted lists of size m and n respectively. The number of comparisons needed in the worst case by the merge sort algorithm will be?	1. mn 2. max(m,n) 3. min(m,n) 4. <b>m+n-1</b>
A variable P is called pointer if	1. <b>P contains the address of an element in DATA.</b> 2. P points to the address of first element in DATA 3. P can store only memory addresses 4. P contain the DATA and the address of DATA
Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called	1. <b>elementary items</b> 2. atoms 3. scalars 4. all of above
Which of the following data structure store the NON homogeneous data elements?	1. <b>Arrays</b> 2. Records 3. Pointers 4. None

A _____ is a data-structure that organizes data similar to a line in the super-market, where the first one in the line is the first to be out:	1. <b>Queues</b> 2. Stacks 3. Arrays 4. Structures
A binary tree with $n$ internal nodes has a max. of external nodes equal to:	1. $n$ 2. <b><math>n+1</math></b> 3. $n-1$ 4. $2n$
A matrix which has most of its values equal to 0:	1. <b>Sparse Matrix</b> 2. Zero matrix 3. Empty matrix 4. Diagonal matrix
A max-heap is also known as:	1. increasing heap 2. <b>ascending heap</b> 3. High heap 4. Big heap
A right in-threaded binary tree contains:	1. <b>inorder successor</b> 2. inorder predecessor 3. postorder successor 4. preorder successor
A set of several trees that are not linked to each other in any way	1. <b>Forests</b> 2. Graphs 3. B Trees 4. AVL trees

A sparse matrix can also be represented using:	1. queue 2. Stack 3. tree 4. <b>Linked List</b>
A tree having any number of nodes:	1. Binary tree 2. <b>General tree</b> 3. AVL tree 4. B tree
A tree in which the value in every node is more than node-values in its left subtree and less than node-values in its right subtree:	1. <b>Binary search tree</b> 2. AVL tree 3. B tree 4. Splay tree
All the non-leaf nodes except the root node in a multi-way search tree of order, n have atleast ..... children	1. n 2. n-1 3. 2n 4. <b>n/2</b>
An algorithm that calls itself directly or indirectly is known as:	1. Sub - Algorithm 2. <b>Recursive Algorithm</b> 3. Polish notation 4. Traversal Algorithm
Complexity of heap sort	1. O(n) 2. O(2n) 3. O(logn) 4. <b>O(nlogn)</b>

Heaps are of two types:	1. High and low 2. <b>Max and Min</b> 3. B and B+ 4. Complete and Binary
Height of a full binary tree with n internal nodes is:	1. n 2. <b>log n</b> 3. n log n 4. n-1
If there are more than one paths between two nodes, it is a:	1. tree 2. list 3. <b>graph</b> 4.path
Incase of min-heap, the value present in any node is:	1. greater than all its children 2. <b>smaller than all its children</b> 3. equal to all its children 4. greater than values in left subtree and smaller than values in right subtree
Shell sort is an improvisation over ..... sort.	1. quick 2. <b>insertion</b> 3. merge 4. selection
The algorithm used in dynamic memory allocation with minimum time:	1. <b>First fit</b> 2. Best fit 3. Worst fit 4. Next fit

The degree of a leaf node is:	1. -1 2. 1 3. <b>0</b> 4. undefined
The depth of a complete binary tree is given by:	1. $n \log n$ 2. $\log n$ 3. $n \log n + 1$ 4. <b><math>\log n + 1</math></b>
The inorder traversal of tree will yield a sorted listing of elements of tree:	1. Binary tree 2. <b>Binary Search Tree</b> 3. Heaps 4. Splays
The leaf nodes of a tree have height equal to:	1. height of the tree 2. <b>zero</b> 3. one 4. degree
The terms Tail and Head are related to	1. <b>Singly Linked List</b> 2. Circular Linked list 3. Doubly Linked List 4. Queues
The variables which can be accessed by all modules in a program, are known as:	1. Local variables 2. External variables 3. Internal variables 4. <b>Global variable</b>

To reduce disk-accesses while searching for a record, the tree used is ..... tree.	1. binary search tree 2. General tree 3. <b>B tree</b> 4. AVL tree
When representing any algebraic expression E which uses only binary operations in a 2-tree:	1. <b>the variables in E will appear as external nodes and operations as internal nodes</b> 2. the operations in E will appear as external nodes and variables as internal nodes 3. the variables and operations in E will appear only as internal nodes 4. the variables and operations in E appear only as external nodes
Which of the following abstract data types is not used by integer abstract data type group?	1. Short 2. int 3. <b>Float</b> 4. Long
Which of the following data structures can't store non-homogeneous data-elements:	1. <b>Arrays</b> 2. Records 3. Pointers 4. Structures
Which of the following is a two-way list:	1. grounded header list 2. circular header list 3. linked list with header & trailer nodes 4. <b>none of the above</b>

<p>While calculating time-complexity, the program-time which is considered is:</p>	<ol style="list-style-type: none"> <li>1. compile time</li> <li>2. <b>Execution time</b></li> <li>3. run time</li> <li>4. Analysis time</li> </ol>
<p>The TTL field has value 10. How many routers (max) can process this datagram?</p>	<ol style="list-style-type: none"> <li>1. 11</li> <li>2. 5</li> <li>3. <b>10</b></li> <li>4. 1</li> </ol>
<p>Which field helps to check rearrangement of the fragments?</p>	<ol style="list-style-type: none"> <li>1. <b>offset</b></li> <li>2. flag</li> <li>3. TTL</li> <li>4. identifier</li> </ol>
<p>The assignment operator is denoted by</p>	<ol style="list-style-type: none"> <li>1. -&gt;</li> <li>2. &lt;-</li> <li>3. <b>=</b></li> <li>4. ==</li> </ol>
<p>_____ means that the data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.</p>	<ol style="list-style-type: none"> <li>1. Consistency</li> <li>2. Atomicity</li> <li>3. Durability</li> <li>4. <b>Isolation</b></li> </ol>
<p>_____ has made PL/SQL code run faster without requiring any additional work on the part of the programmer.</p>	<ol style="list-style-type: none"> <li>1. SQL Server</li> </ol>

	<p>2.</p> <p>MySQL</p> <p>3.</p> <p><b>Oracle</b></p> <p>4.</p> <p>SQL Lite</p>
Isolation of the transactions is ensured by	<p>1.</p> <p>Transaction management</p> <p>2.</p> <p>Application programmer</p> <p>3.</p> <p><b>Concurrency control</b></p> <p>4.</p> <p>Recovery management</p>
8. In precedence of set operators the expression is evaluated from	<p>1.</p> <p>Left to left</p> <p>2.</p> <p><b>Left to right</b></p> <p>3.</p> <p>Right to left</p> <p>4.</p> <p>From user specification</p>
Which of the following is the oldest database model?	<p>1.</p> <p>Relational</p> <p>2.</p> <p>Deductive</p> <p>3.</p> <p>Physical</p> <p>4.</p> <p><b>Network</b></p>
_____ combines the data manipulating power of SQL with the data processing power of Procedural languages.	<p>1.</p> <p><b>PL/SQL</b></p> <p>2.</p> <p>SQL</p> <p>3.</p> <p>Advanced SQL</p>

	4. PQL
_____ is a procedural extension of Oracle – SQL that offers language constructs similar to those in imperative programming languages.	1. SQL  2. <b>PL/SQL</b>  3. Advanced SQL  4. PQL
_____ provides option for entering SQL queries as execution time, rather than at the development stage	1. PL/SQL  2. SQL*Plus 3.  4.  <b>Dynamic SQL</b>
_____ is a sequence of zero or more characters enclosed by single quotes.	1. Integers literal  2. <b>String literal</b>  3. String units 4.  String label
A _____ is an explicit numeric, character, string or Boolean value not represented by an identifier.	1. Comments  2. <b>Literals</b> 3.  Delimiters 4.  Identifiers
A collection of data designed to be used by different people is called a/an	1. Organization

	2. <b>Database</b>  3. Relationship  4. Schema
A line of PL/SQL text contains groups of characters known as _____.	1. <b>Lexical Units</b>  2. Literals 3.  Textual Units 4.  Identifiers
A table can be logically connected to another table by defining a _____.	1. Super key 2.  Candidate key 3.  <b>Primary key</b> 4.  Unique key
A transaction is delimited by statements (or function calls) of the form _____.	1. <b>Begin transaction and end transaction</b>  2. Start transaction and stop transaction  3. Get transaction and post transaction  4. Read transaction and write transaction
By default sql server has _____ isolation level	1. <b>READ COMMITTED</b> 2.

	<p>READ UNCOMMITTED</p> <p>3.</p> <p>SERIALIZABLE</p> <p>4.</p> <p>REPEATABLE READ</p>
Consider money is transferred from (1) account-A to account-B and (2) account-B to account-A. Which of the following form a transaction ?	<p>1.</p> <p>Only 1</p> <p>2.</p> <p>Only 2</p> <p>3.</p> <p><b>Both 1 and 2 individually</b></p> <p>4.</p> <p>only 1 or only 2</p>
Constraint checking can be disabled in existing _____ and _____ constraints so that any data you modify or add to the table is not checked against the constraint.	<p>1.</p> <p><b>CHECK, FOREIGN KEY</b></p> <p>2.</p> <p>DELETE, FOREIGN KEY</p> <p>3.</p> <p>CHECK, PRIMARY KEY</p> <p>4.</p> <p>PRIMARY KEY, FOREIGN KEY</p>
Ensuring isolation property is the responsibility of the	<p>1.</p> <p>Recovery-management component of the DBMS</p> <p>2.</p> <p><b>Concurrency-control component of the DBMS</b></p> <p>3.</p> <p>Transaction-management component of the DBMS</p> <p>4.</p> <p>Buffer management component in DBMS</p>
For select operation the _____ appear in the subscript and the _____ argument appears in the parenthesis after the sigma.	<p>1.</p> <p>Predicates, relation</p>

<p>For select operation the _____ appear in the subscript and the _____ argument appears in the parenthesis after the sigma.</p>	2. Relation, Predicates  3. Operation, Predicates  4. Relation, Operation
<p>Identify the characteristics of transactions</p>	1. Atomicity  2. Durability  3. Isolation  4. <b>All of the mentioned</b>
<p>If no header is specified, the block is said to be an _____ PL/SQL block</p>	1. Strong  2. Weak  3. Empty 4. <b>Anonymous</b>
<p>If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called</p>	1. Consistent state  2. Parallel state 3.  Durable state 4.  <b>Inconsistent state</b>
<p>In SQL, the CREATE TABLESPACE is used</p>	1. <b>To create a place in the database for storage of scheme objects, rollback segments, and naming the data files to comprise the tablespace.</b>  2.

	<p>To create a database trigger.</p> <p>3.</p> <p>To add/rename data files, to change storage</p> <p>4.</p> <p>All of the mentioned</p>
In SQL, which command is used to issue multiple CREATE TABLE, CREATE VIEW and GRANT statements in a single transaction?	<p>1.</p> <p>CREATE PACKAGE</p> <p>2.</p> <p><b>CREATE SCHEMA</b></p> <p>3.</p> <p>CREATE CLUSTER</p> <p>4.</p> <p>All of the mentioned</p>
Problems occurs if we don't implement proper locking strategy	<p>1.</p> <p>Dirty reads</p> <p>2.</p> <p>Phantom reads</p> <p>3.</p> <p>Lost updates</p> <p>4.</p> <p><b>Unrepeatable reads</b></p>
SNAPSHOT is used for (DBA)	<p>1.</p> <p>Synonym</p> <p>2.</p> <p>Tablespace</p> <p>3.</p> <p>System server</p> <p>4.</p> <p><b>Dynamic data replication</b></p>
The _____ operation, denoted by $-$ , allows us to find tuples that are in one relation but are not in another.	<p>1.</p> <p>Union</p> <p>2.</p> <p><b>Set-difference</b></p> <p>3.</p> <p>Difference</p> <p>4.</p>

	Intersection
The best data structure to check whether an arithmetic expression has balanced parentheses is a	1.Queue 2.List 3.Stack 4.Array
The database system must take special actions to ensure that transactions operate properly without interference from concurrently executing database statements. This property is referred to as	1. Atomicity 2. Durability 3. <b>Isolation</b> 4.  All of the mentioned
The Oracle RDBMS uses the _____ statement to declare a new transaction start and its properties.	1. BEGIN 2.  <b>SET TRANSACTION</b> 3. BEGIN TRANSACTION 4. COMMIT
The property of transaction that persists all the crashes is	1. Atomicity 2. <b>Durability</b> 3. Isolation 4. All of the mentioned
The relationship between DEPARTMENT and EMPLOYEE is a	1. One-to-one relationship 2.  <b>One-to-many relationship</b> 3.  Many-to-many relationship 4.

	Many-to-one relationship
The SQL statement SELECT SUBSTR('123456789', INSTR('abcabcabc','b'), 4) FROM EMP; prints	<p>1. 6789</p> <p>2. <b>2345</b></p> <p>3. 1234</p> <p>4. 456789</p>
Transaction processing is associated with everything below except	<p>1. Producing detail summary or exception reports</p> <p>2. Recording a business activity</p> <p>3. <b>Confirming a action or triggering a response</b></p> <p>4. Maintaining a data</p>
We use _____ name PL/SQL program objects and units.	<p>1. Lexical Units</p> <p>2. Literals</p> <p>3. Delimiters</p> <p>4. <b>Identifiers</b></p>
What are the different events in Triggers?	<p>1. Define, Create</p> <p>2. Drop, Comment</p> <p>3. <b>Insert, Update, Delete</b></p> <p>4. Select, Commit</p>

<p>When SQL statements are embedded inside 3GL, we call such a program as</p>	<ol style="list-style-type: none"> <li>1. Nested query</li> <li>2. Nested programming</li> <li>3.</li> <li>Distinct query</li> <li>4.</li> </ol> <p><b>Embedded SQL</b></p>
<p>Which character function can be used to return a specified portion of a character string?</p>	<ol style="list-style-type: none"> <li>1. INSTR</li> <li>2. SUBSTRING</li> <li>3.</li> <li><b>SUBSTR</b></li> <li>4. POS</li> </ol>
<p>Which is a join condition contains an equality operator:</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>Equijoins</b></li> <li>2. Cartesian</li> <li>3. Natural</li> <li>4. Left</li> </ol>
<p>Which is a unary operation:</p>	<ol style="list-style-type: none"> <li>1.</li> <li>a) Selection operation</li> <li>2.</li> <li>b) Primitive operation</li> <li>3.</li> <li>c) Projection operation</li> <li>4.</li> <li><b>d) Generalized selection</b></li> </ol>
<p>Which is the subset of SQL commands used to manipulate Oracle Database Structures, including tables?</p>	<ol style="list-style-type: none"> <li>1.</li> <li>Data Definition Language</li> <li>2.</li> <li><b>Data Manipulation Language</b></li> </ol>

	3. Data Described Language 4. Data Retrieval Language
Which of the following fixed database roles can add or remove user IDs?	1. <b>db_accessadmin</b> 2. db_securityadmin 3. db_setupadmin 4. db_sysadmin
Which of the following has “all-or-none” property ?	1. <b>Atomicity</b> 2. Durability 3. Isolation 4. All of the mentioned
Which of the following is an attribute that can uniquely identify a row in a table?	1. Secondary key 2. <b>Candidate key</b> 3. Foreign key 4. Alternate key
Which of the following is not outer join ?	1. Left outer join 2. Right outer join 3. Full outer join 4. <b>All of the mentioned</b>

	<p>Which of the following is the process of selecting the data storage and data access characteristics of the database?</p> <p>1. Logical database design 2. <b>physical database design</b> 3. Testing and performance tuning 4. Evaluation and selecting</p>
<p>Which of the following is TRUE for the System Variable \$date\$?</p>	<p>1. Can be assigned to a global variable. 2. <b>Can be assigned to any field only during design time.</b> 3. Can be assigned to any variable or field during run time. 4. Can be assigned to a local variable.</p>
<p>Which of the following schemas does define a view or views of the database for particular users?</p>	<p>1. Internal schema 2. Conceptual schema 3. Physical schema 4. <b>External schema</b></p>
<p>Which of the following SQL command can be used to modify existing data in a database table?</p>	<p>1. MODIFY 2. <b>UPDATE</b> 3. CHANGE 4. NEW</p>

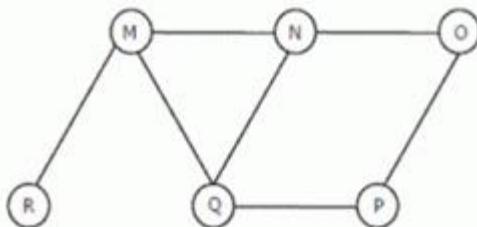
<p>Which of the following statements is/are not true for SQL profiler?</p>	<ol style="list-style-type: none"> <li>1. Enables you to monitor events</li> <li>2. Check if rows are being inserted properly</li> <li>3. <b>Check the performance of a stored procedure</b></li> <li>4. All of these</li> </ol>
<p>Which of the following terms does refer to the correctness and completeness of the data in a database?</p>	<ol style="list-style-type: none"> <li>1. Data security</li> <li>2. Data constraint</li> <li>3. Data independence</li> <li>4. <b>Data integrity</b></li> </ol>
<p>An adaptive sorting algorithm –</p>	<ol style="list-style-type: none"> <li>1. adapts to new computers</li> <li>2. <b>takes advantage of already sorted elements.</b></li> <li>3. takes input which is already sorted.</li> <li>4. none of the these</li> </ol>
<p>Stack is used for</p>	<ol style="list-style-type: none"> <li>1. CPU Resource Allocation</li> <li>2. Breadth First Traversal</li> <li>3. <b>Recursion</b></li> <li>4. Depth First Traversal</li> </ol>
<p>The time required to search an element in a linked list of length n is</p>	<ol style="list-style-type: none"> <li>1. <math>O(n^2)</math></li> <li>2. <math>O(n \log_2 n)</math></li> <li>3. <b><math>O(n)</math></b></li> <li>4.</li> </ol>

	0(log2 n)
_____ states that only valid data will be written to the database.	1. <b>Consistency</b> 2. Atomicity 3. Durability 4. Isolation
B+ trees are preferred to binary trees in databases because	1. Disk capacities are greater than memory capacities 2. <b>Disk access is much slower than memory access</b> 3. Disk data transfer rates are much less than memory data transfer rates 4. Disks are more reliable than memory
Consider the following nested representation of binary trees: (X Y Z) indicates Y and Z are the left and right sub stress, respectively, of node X. Note that Y and Z may be NULL, or further nested. Which of the following represents a valid binary tree?	1. (1 2 (4 5 6 7)) 2. (1 (2 3 4) 5 6) 7 3. <b>(1 (2 3 4)(5 6 7))</b> 4. (1 (2 3 NULL) (4 5))
Consider the label sequences obtained by the following pairs of traversals on a labeled binary tree. Which of these pairs identify a tree uniquely?  i) preorder and postorder ii) inorder and postorder iii) preorder and inorder iv) level order and postorder	1. (i) only 2. <b>(ii), (iii)</b> 3. (iii) only 4. (iv) only
In a complete binary tree, the number of leaves with n internal nodes is:	1. 2n 2. 2(n-1)+1 3. <b>n+1</b> 4. n

<p>In the worst case, the number of comparisons needed to search a singly linked list of length <math>n</math> for a given element is</p>	<ol style="list-style-type: none"> <li>1.</li> <li><math>\log 2n</math></li> <li>2.</li> <li><math>n/2</math></li> <li>3.</li> <li><math>\log n-1</math></li> <li>4.</li> <li><math>n</math></li> </ol>
<p>Let LASTPOST, LASTIN and LASTPRE denote the last vertex visited in a postorder, inorder and preorder traversal. Respectively, of a complete binary tree. Which of the following is always true?</p>	<ol style="list-style-type: none"> <li>1.</li> <li><math>\text{LASTIN} = \text{LASTPOST}</math></li> <li>2.</li> <li><math>\text{LASTIN} = \text{LASTPRE}</math></li> <li>3.</li> <li><math>\text{LASTPRE} = \text{LASTPOST}</math></li> <li>4.</li> <li>None of the above</li> </ol>
<p>Let <math>s</math> be a sorted array of <math>n</math> integers. Let <math>t(n)</math> denote the time taken for the most efficient algorithm to determine if there are two elements with sum less than 1000 in <math>s</math>. which of the following statements is true?</p>	<ol style="list-style-type: none"> <li>1.</li> <li><math>t(n) \text{ is } O(1)</math></li> <li>2.</li> <li><math>n &lt; t(n) &lt; n</math></li> <li>3.</li> <li><math>n \log 2 n &lt; t(n) &lt; n \log 3n</math></li> <li>4.</li> <li><math>t(n) \text{ is } O(n)</math></li> </ol>
<p>Level order traversal of a rooted tree can be done by starting from the root and performing</p>	<ol style="list-style-type: none"> <li>1.</li> <li>preorder traversal</li> <li>2.</li> <li>in-order traversal</li> <li>3.</li> <li>depth first search</li> <li>4.</li> <li><b>breadth first search</b></li> </ol>
<p>Postorder traversal of a given binary search tree, <math>T</math> produces the following sequence of keys  <math>10, 9, 23, 22, 27, 25, 15, 50, 95, 60, 40, 29</math>  Which one of the following sequences of keys can be the result of an in-order traversal of the tree <math>T</math>?</p>	<ol style="list-style-type: none"> <li>1.</li> <li><math>9, 10, 15, 22, 23, 25, 27, 29, 40, 50, 60, 95</math></li> <li>2.</li> <li><math>9, 10, 15, 22, 40, 50, 60, 95, 23, 25, 27, 29</math></li> <li>3.</li> <li><math>29, 15, 9, 10, 25, 22, 23, 27, 40, 60, 50, 95</math></li> <li>4.</li> <li><math>95, 50, 60, 40, 27, 23, 22, 25, 10, 9, 15, 29</math></li> </ol>
<p>Suppose the numbers <math>7, 5, 1, 8, 3, 6, 0, 9, 4, 2</math> are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?</p>	<ol style="list-style-type: none"> <li>1.</li> <li><math>7\ 5\ 1\ 0\ 3\ 2\ 4\ 6\ 8\ 9</math></li> <li>2.</li> <li><math>0\ 2\ 4\ 3\ 1\ 6\ 5\ 9\ 8\ 7</math></li> <li>3.</li> </ol>

0 1 2 3 4 5 6 7 8 9  
4.  
9 8 6 4 2 3 0 1 5 7

The Breadth First Search algorithm has been implemented using the queue data structure. One possible order of visiting the nodes of the following graph is



1. MNOPQR
2. NQMPOR
3. QMNPRO
4. **QMNPOR**

The following numbers are inserted into an empty binary search tree in the given order: 10, 1, 3, 5, 15, 12, 16. What is the height of the binary search tree (the height is the maximum distance of a leaf node from the root)?

- 1.
- 2.
- 2.
- 3**
- 3.
- 4.
- 4.
- 6

The height of a binary tree is the maximum number of edges in any root to leaf path. The maximum number of nodes in a binary tree of height h is:

1.  $2^{(h-1)} - 1$
2.  **$2^{(h+1)} - 1$**
3.  $2^h + 1$
4.  $2^{(h+1)}$

The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which one of the following is the postorder traversal sequence of the same tree?

1. 10, 20, 15, 23, 25, 35, 42, 39, 30
2. 15, 10, 25, 23, 20, 42, 35, 39, 30
3. 15, 20, 10, 23, 25, 42, 35, 39, 30
- 4. 15, 10, 23, 25, 20, 35, 42, 39, 30**

The recurrence relation capturing the optimal time of the Tower of Hanoi problem with n discs is

1.  $T(n) = 2T(n - 2) + 2$
2.  $T(n) = 2T(n - 1) + n$
3.  $T(n) = 2T(n/2) + 1$
- 4.

$$\text{T}(n) = 2\text{T}(n - 1) + 1$$

	$T(n) = 2T(n - 1) + 1$
To implement Dijkstra's shortest path algorithm on unweighted graphs so that it runs in linear time, the data structure to be used is:	<p>1.  <b>Queue</b>      2.      Stack      3.      B-Tree      4.      Array</p>
What is the maximum height of any AVL-tree with 7 nodes? Assume that the height of a tree with a single node is 0.	<p>1.      2      2.  <b>3</b>      3.      4      4.      5</p>
Which of the following sorting algorithms has the lowest worst-case complexity?	<p>1.<b>Merge Sort</b> 2.      Quick Sort      3.      Bubble Sort      4.      Selection Sort</p>
Which one of the following in place sorting algorithms needs the minimum number of swaps?	<p>1.      Quick sort      2.      Insertion sort      3.  <b>Selection sort</b>      4.      Heap Sort</p>
Which one of the following is a key factor for preferring B-trees to binary search trees for indexing database relations?	<p>1.      Database relations have a large number of records      2.      Database relations are sorted on the primary key      3.      B-trees require less memory than binary search trees      4.  <b>Data transfer from disks is in blocks.</b></p>
Merge sort uses ?	<p>1.  <b>Divide and conquer strategy</b>      2.      Backtracking approach      3.</p>

	Heuristic search 4. Greedy approach
The following sequence of operation is performed on stack : push(1),push(2),pop,push(1),push(2),pop,pop,pop,push(2),pop. The sequence of popped out values are ?	1. <b>2,2,1,1,2</b> 2. 2,2,1,2,2 3. 2,1,2,2,1 4. 2,1,2,2,2
The number of swapping needed to sort numbers 8,22,7,9,31,19,5,13 in ascending order using bubble sort is ?	1. 10 2. 12 3. <b>14</b> 4. 16
Which of the following algorithm design technique is used in the quick sort algorithm?	1. Dynamic programming 2. Backtracking 3. <b>Divide and conquer</b> 4. Greedy method
Which of the following statement is true ?	1. <b>Optimal binary search tree construction can be performed efficiently using dynamic programming.</b> 2. Breath first search cannot be used to find converted components of a graph. 3. Given the prefix and post fix walks over a binary tree.The binary tree cannot be uniquely constructed 4. Depth first search can be used to find connected components of a graph.
A search begins the search with the element that is located in the middle of array	1. Serial 2. Random

	3. Parallel 4. <b>Binary</b>
From a complete graph, by removing maximum _____ edges, we can construct a spanning tree.	1. <b>e-n+1</b> 2. $n-e+1$ 3. $n+e-1$ 4. $e-n-1$
Heap is an example of	1. <b>complete binary tree</b> 2. spanning tree 3. sparse tree 4. binary search tree
The complexity of linear search algorithm is	1. <b>O(n)</b> 2. $O(\log n)$ 3. $O(\log n)$ 4. $O(n \log n)$
To sort many large objects or structures, it would be most efficient to	1. Place them in an array and sort the array 2. Place pointers to them in an array and sort the array 3. <b>Place them in a linked list and sort the linked list</b> 4. Place references to them in an array and sort the array
Which of the below given sorting techniques has highest best-case runtime complexity –	1. quick sort 2. <b>selection sort</b> 3. insertion sort 4. bubble sort
Which of the following algorithm is not stable?	1.

	Bubble Sort 2. <b>Quick Sort</b> 3. Merge Sort 4. Insertion Sort
Which of the following sorting procedure is the slowest?	1. Quick Sort 2. Heap Sort 3. Shell Sort 4. <b>Bubble Sort</b>
Which of the following uses memoization?	1. Greedy approach 2. Divide and conquer approach 3. <b>Dynamic programming approach</b> 4. None of these
Which one of the below is not divide and conquer approach?	1. Insertion Sort 2. <b>Merge Sort</b> 3. Shell Sort 4. Heap Sort
Relational Algebra is a _____ query language that takes two relation as input and produces another relation as output of the query.	1. Relational 2. Structural 3.  <b>Procedural</b> 4.  Fundamental
Which of the following pattern is the basis of interaction management in many web-based systems?	1. architecture 2. repository pattern  <b>3.model-view-controller</b>

	3. <b>model-view-controller</b> 4. different operating system
Which design identifies the software as a system with many components interacting with each other?	1. Architectural design 2. High-level design 3. Detailed design 4. low-level design
The context diagram is also known as: _____	1. <b>Level-0 DFD</b> 2. Level-1 DFD 3. Level-2 DFD 4. Level-3 DFD
Baud means?	1. The number of bits transmitted per unit time 2. The number of bytes transmitted per unit time 3. <b>The rate at which the signal changes</b> 4. None of above
How long is an IPv6 address?	1. 32 bits 2. <b>128 bits</b> 3. 128 bytes 4. 64 bits
Loss in signal power as light travels down the fiber is called?	1. <b>Attenuation</b> 2. Propagation 3. Scattering 4. Interruption
Protocols are?	1. <b>Agreements on how communication components</b>

	<p>and DTE's are to communicate</p> <ol style="list-style-type: none"> <li>2.</li> <li>Logical communication channels for transferring data</li> <li>3.</li> <li>Physical communication channels sued for transferring data</li> <li>4.</li> <li>Logical communication channels sued for transferring data</li> </ol>
Under mark parity, each parity bit is?	<ol style="list-style-type: none"> <li>1.</li> <li>Alternated between 0 and 1</li> <li>2.</li> <li>Always set to 0</li> <li>3.</li> <li>Always set to 1</li> <li>4.</li> <li>Not used</li> </ol>
Although they've fallen out of favor, which of the following devices is used to connect different network segments and manage the traffic between them?	<ol style="list-style-type: none"> <li>1.</li> <li>Bridge</li> <li>2.</li> <li>Hub</li> <li>3.</li> <li>Gateway</li> <li>4.</li> <li>Repeater</li> </ol>
How often are BPDUs sent from a layer 2 device?	<ol style="list-style-type: none"> <li>1.</li> <li>Every 2 seconds</li> <li>2.</li> <li>Never</li> <li>3.</li> <li>Every 10 minutes</li> <li>4.</li> <li>Every 30 seconds</li> </ol>
In dial up remote access a client uses the ---- to create a physical connection to a part on a remote access server of the private network.	<ol style="list-style-type: none"> <li>1.</li> <li>onlineexam.telephone network</li> <li>2.</li> <li>Banks branch network</li> <li>3.</li> <li>Private network</li> <li>4.</li> <li>onlineexam.local network</li> </ol>
In OSI model dialogue control and token management are responsibilities of ?	<ol style="list-style-type: none"> <li>1.</li> <li>Session Layer</li> </ol>

	2. Network layer 3. Transport layer 4. Data link layer
Star Topology is Based On a Central Device that can be _____?	1. Hub 2. Switch 3.Router 4. <b>Both Hub and Switch</b>
Switch is a Device of _____ Layer of OSI Model.	1. Network Layer 2. <b>Data Link Layer</b> 3. Application Layer 4. Session Layer
What is a stub network?	1. <b>A network that has only one entry and exit point.</b> 2. A network with only one entry and no exit point. 3. A network with more than one exit point. 4. A network with more than one exit and entry point.
What protocols are used to configure trunking on a switch?	1. VLAN Trunking Protocol 2. VLAN 3. <b>802.1Q</b> 4. ISL
Which of the following devices takes data sent from one network device and forwards it to all devices on the network regardless of the intended recipient?	1. DNS Server 2. Switch 3. <b>Hub</b> 4. Gateway

<p>Which of the following devices takes data sent from one network device and forwards it to the destination node based on MAC address?</p>	<ol style="list-style-type: none"> <li>1. Hub</li> <li>2. <b>Switch</b></li> <li>3. Gateway</li> <li>4. Modem</li> </ol>
<p>Which of the following services use TCP?</p>	<ol style="list-style-type: none"> <li>1. DHCP</li> <li>2. <b>SMTP</b></li> <li>3. FTP</li> <li>4. TFTP</li> </ol>
<p>Which of the following terms is used to describe a hardware- or software-based device that protects networks from outside threats?</p>	<ol style="list-style-type: none"> <li>1. NIC</li> <li>2. Gateway</li> <li>3. <b>Firewall</b></li> <li>4. Hub</li> </ol>
<p>Which protocol does Ping use?</p>	<ol style="list-style-type: none"> <li>1. TCP</li> <li>2. ARP</li> <li>3. <b>ICMP</b></li> <li>4. BootP</li> </ol>
<p>Which router command allows you to view the entire contents of all access lists?</p>	<ol style="list-style-type: none"> <li>1. show all access-lists</li> <li>2. <b>show access-lists</b></li> <li>3. show ip interface</li> <li>4. show interface</li> </ol>
<p>You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server?</p>	<ol style="list-style-type: none"> <li>1. 100 kbps</li> <li>2. <b>10 Mbps</b></li> <li>3. 1 Mbps</li> <li>4. 2 Mbps</li> </ol>

<p>..... is a more generalized single source shortest path algorithm which can find the shortest path in a graph with negative weighted edges.</p>	<ol style="list-style-type: none"> <li>1. Kruskal's algorithm</li> <li>2. Prim's algorithm</li> <li>3. Dijkstra algorithm</li> <li>4. Bellman Ford algorithm</li> </ol>
<p>A ..... is a data structure that organizes data similar to a line in the supermarket, where the first one in line is the first one out.</p>	<ol style="list-style-type: none"> <li>1. Queue as linked list</li> <li>2. Stack as linked list</li> <li>3. Both of them</li> <li>4. Neither of them</li> </ol>
<p>A distributed network configuration in which all data/information pass through a central computer is</p>	<ol style="list-style-type: none"> <li>1. bus network</li> <li>2. star network</li> <li>3. ring network</li> <li>4. Point-to-point network</li> </ol>
<p>A front-end processor is</p>	<ol style="list-style-type: none"> <li>1. a user computer system</li> <li>2. a processor in a large-scale computer that executes operating system instructions</li> <li>3. a minicomputer that relieves main-frame computers at a computer centre of communications control functions</li> <li>4. preliminary processor of batch jobs</li> </ol>
<p>A noiseless 3 KHz Channel transmits bits with binary level signals. What is the maximum data rate?</p>	<ol style="list-style-type: none"> <li>1. 3 Kbps</li> <li>2. 6 Kbps</li> <li>3. 12 Kbps</li> <li>4. 24 Kbps</li> </ol>
<p>A remote batch-processing operation in which data is solely input to a central computer would require a:</p>	<ol style="list-style-type: none"> <li>1. Telegraph line</li> <li>2. Simplex lines</li> </ol>

	<p><b>Simplex lines</b></p> <p>3. Mixedband channel 4.duplex lines</p>
A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?	<p>1. <b>hot potato routing</b> 2. Flooding 3. static routing 4. delta routing</p>
Avalanche photodiode receivers can detect hits of transmitted data by receiving	<p>1. 100 photons 2. <b>200 photons</b> 3. 300 photons 4. 400 photons</p>
Carrier is	<p>1. One or more conductors that serve as a common connection for a related group of devices 2. <b>a continuous frequency capable of being modulated or impressed with a second signal</b> 3. the condition when two or more sections attempt to use the same channel at the same time 4. a collection of interconnected functional units that provides a data communications service among stations attached to the network</p>
Contention is	<p>1. One or more conductors that serve as a common connection for a related group of devices 2. a continuous frequency capable of being modulated</p>

	<p>or impressed with a second signal</p> <p>3.</p> <p><b>the condition when two or more stations attempt to use the same channel at the same time</b></p> <p>4.</p> <p>a collection of interconnected functional units that provides a data communications service among stations attached to the network</p>
<p>Eight stations are competing for the use of a shared channel using the 'Adaptive tree Walk Protocol'. If the stations 7 and 8 are suddenly become ready at once, how many bit slots are needed to resolve the contention?</p>	<p>1.</p> <p><b>7 slots</b></p> <p>2.</p> <p>5 slots</p> <p>3.</p> <p>10 slots</p> <p>4.</p> <p>14 slots</p>
<p>Frames from one LAN can be transmitted to another LAN via the device</p>	<p>1.</p> <p>Router</p> <p>2.</p> <p><b>Bridge</b></p> <p>3.</p> <p>Repeater</p> <p>4.</p> <p>Modem</p>
<p>How many bits internet address is assigned to each host on a TCP/IP internet which is used in all communications with the host?</p>	<p>1.</p> <p>16 - bits</p> <p>2.</p> <p><b>32 - bits</b></p> <p>3.</p> <p>48 - bits</p> <p>4.</p> <p>64 - bits</p>
<p>How many digits of the DNIC (Data Network Identification Code) identify the country?</p>	<p>1.</p> <p><b>first three</b></p> <p>2.</p> <p>first four</p> <p>3.</p> <p>first five</p> <p>4.</p> <p>first six</p>
<p>How many hosts are attached to each of the local area networks at your site?</p>	<p>1.</p> <p>128</p> <p>2. <b>254</b></p>

	<p><b>254</b></p> <p>3.</p> <p>256</p> <p>4.</p> <p>64</p>
ICMP (Internet Control Message Protocol) is	<p>1.</p> <p>a TCP/IP protocol used to dynamically bind a high level IP Address to a low-level physical hardware address</p> <p>2.</p> <p>a TCP/IP high level protocol for transferring files from one machine to another</p> <p>3.</p> <p>a protocol used to monitor computers</p> <p>4.</p> <p><b>a protocol that handles error and control messages</b></p>
If you get both local and remote echoes, every character you type will appear on the screen	<p>1.</p> <p>once</p> <p>2.</p> <p><b>twice</b></p> <p>3.</p> <p>three times</p> <p>4.</p> <p>never</p>
In CRC there is no error if the remainder at the receiver is _____.	<p>1.</p> <p>equal to the remainder at the sender</p> <p>2.</p> <p>zero</p> <p>3.</p> <p>nonzero</p> <p>4.</p> <p><b>the quotient at the sender</b></p>
Items in a priority queue are entered in a _____ order	<p>1.</p> <p><b>Random</b></p> <p>2.</p> <p>Order of priority</p> <p>3.</p> <p>as and when they come</p> <p>4.</p> <p>same priority</p>

<p>Satellite-Switched Time-Division Multiple Access (SS/TDMA) is</p>	<ol style="list-style-type: none"> <li>1. the method of determining which device has access to the transmission medium at any time.</li> <li>2. a medium access control technique for multiple access transmission media</li> <li>3. a form of TDMA in which circuit switching is used to dynamically change the channel assignments</li> <li>4. All of the above</li> </ol>
<p>The floyd-warshall all pairs shortest path algorithm computes the shortest paths between each pair of nodes in .....</p>	<ol style="list-style-type: none"> <li>1. <math>O(n \log n)</math></li> <li>2. <math>O(\log 2n)</math></li> <li>3. <math>O(n^2)</math></li> <li>4. <math>O(n^3)</math></li> </ol>
<p>The Internet Control Message Protocol (ICMP)</p>	<ol style="list-style-type: none"> <li>1. allows gateways to send error control messages to other gateways or hosts</li> <li>2. provides communication between the Internet Protocol Software on one machine and the Internet Protocol Software on another</li> <li>3. reports error conditions to the original source, the source must relate errors to individual application programs and take action to correct the problem</li> <li>4. All of the above</li> </ol>
<p>The probability that a single bit will be in error on a typical public telephone line using 4800 bps modem is 10 to the power -3. If no error detection mechanism is used, the residual</p>	<ol style="list-style-type: none"> <li>1. 0.003</li> <li>2. 0.009</li> </ol>

<p>error rate for a communication line using 9-bit frames is approximately equal to</p>	<p><b>0.009</b> 3. 0.991 4. 0.999</p>
<p>The slowest transmission speeds are those of</p>	<p>1. <b>twisted-pair wire</b> 2. coaxial cable 3. fiber-optic cable 4. microwaves</p>
<p>The synchronous modems are more costly than the asynchronous modems because</p>	<p>1. they produce large volume of data 2. <b>they contain clock recovery circuits</b> 3. they transmit the data with stop and start bits. 4. they operate with a larger bandwidth</p>
<p>The term 'duplex' refers to the ability of the data receiving stations to echo back a confirming message to the sender. In full duplex data transmission, both the sender and the receiver</p>	<p>1. cannot talk at once 2. <b>can receive and send data simultaneously</b> 3. can send or receive data one at a time 4. can do one way data transmission only</p>
<p>To connect a computer with a device in the same room, you might be likely to use</p>	<p>1. <b>a coaxial cable</b> 2. a dedicated line 3. a ground station 4. All of the above</p>
<p>Usually, it takes 10-bits to represent one character. How many characters can be transmitted at a speed of 1200 BPS?</p>	<p>1. 10</p>

<p>Usually, it takes 10-bits to represent one character. How many characters can be transmitted at a speed of 1200 BPS?</p>	2. 12 3. <b>120</b> 4. 1200
<p>What are the most commonly used transmission speeds in BPS used in data communication?</p>	1. 300 2. 1200 3. 2400 4. <b>9600</b>
<p>What can greatly reduce TCP/IP configuration problems?</p>	1. WINS Server 2. WINS Proxy 3. <b>DHCP Server</b> 4. PDC
<p>What is the default subnet mask for a class C network?</p>	1. 127.0.0.1 2. 255.0.0.0 3. 255.255.0.0 4. <b>255.255.255.0</b>
<p>What is the port number for NNTP?</p>	1. <b>119</b> 2. 80 3. 79 4. 70
<p>What part of 192.168.10.51 is the Network ID, assuming a default subnet mask?</p>	1. 192 2. <b>192.168.10</b> 3. 0.0.0.5 4. 51
<p>When you ping the loopback address, a packet is sent where?</p>	1. On the network

	<p>2. Down through the layers of the IP architecture and then up the layers again 3. Across the wire 4. through the loopback dongle</p>
Which of the following condition is used to transmit two packets over a medium at the same time?	<p>1. Contention 2. <b>Collision</b> 3. Synchronous 4. Asynchronous</p>
Which of the following device is used to connect two systems, especially if the systems use different protocols?	<p>1. Hub 2. bridge 3. <b>gateway</b> 4. repeater</p>
Which of the following is not a disadvantage of wireless LAN?	<p>1. Slower data transmission 2. higher error rate 3. interference of transmissions from different computers 4. <b>All of the above</b></p>
Which of the following is used for modulation and demodulation?	<p>1. <b>Modem</b> 2. Protocols 3. Gateway 4. Multiplexer</p>
Which of the following TCP/IP protocol allows an application program on one machine to send a datagram to an application program on another machine?	<p>1. <b>UDP</b> 2. VMTCP 3. X.25 4.</p>

	SMTP
Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?	1. FTP 2. SNMP 3. <b>SMTP</b> 4. RPC
Which of the following technique is used for fragment?	1. a technique used in best-effort delivery systems to avoid endlessly looping packets 2. a technique used by protocols in which a lower level protocol accepts a message from a higher level protocol and places it in the data portion of the low level frame 3. one of the pieces that results when an IP gateway divides an IP datagram into smaller pieces for transmission across a network that cannot handle the original datagram size 4. All of these
Which of the following ways is a pre-order traversal?	1. Root->left sub tree-> right sub tree 2. Root->right sub tree-> left sub tree 3. right sub tree->left sub tree->Root 4. left sub tree-> right sub tree->Root
You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?	1. 255.240.0.0 2. 255.248.0.0 3.

	<p>255.255.255.255 4. <b>255.254.0.0</b></p>
<p>Your company has a LAN in its downtown office and has now set up a LAN in the manufacturing plant in the suburbs. To enable everyone to share data and resources between the two LANs, what type of device(s) are needed to connect them? Choose the most correct answer.</p>	<p>1. Modem 2. Cable 3. Hub 4. <b>Router</b></p>
<p>Hacking is the term given to _____ operation</p>	<p>1. Carding 2. Scutching 3. Combing 4. pulling</p>
<p>Error detection at the data link layer is achieved by?</p>	<p>1. Bit stuffing 2. <b>Cyclic redundancy codes</b> 3. Hamming codes 4. Equalization</p>
<p>How many collision domains are created when you segment a network with a 12-port switch?</p>	<p>1. 1 2. <b>12</b> 3. 5 4. 2</p>
<p>In communication satellite, multiple repeaters are known as?</p>	<p>1. Detectors 2. Modulators 3. Stations 4. <b>Transponders</b></p>
<p>The topology with highest reliability is ?</p>	<p>1. Bus topology 2. Star topology 3.</p>

	Ring Topology 4. <b>Mesh Topology</b>
Which data communication method is used to transmit the data over a serial communication link?	1. Simplex 2. Half-duplex 3. <b>Full-duplex</b> 4. Half and Full Duplex
..... keeps two sets of vertices; S, the set of vertices whose shortest paths from the source have already been determined and V-S, the remaining vertices.	1. Kruskal's algorithm 2. Prim's algorithm 3. <b>Dijkstra algorithm</b> 4. Bellman ford algorithm
..... is the term used to insert an element into stack.	1. <b>Push</b> 2. Pull 3. Pump 4. Pop
..... form of access is used to add remove nodes from a stack.	1. <b>LIFO</b> 2. FIFO 3. Both A and B 4. Neither A nor B
..... form of access is used to add and remove nodes from a queue.	1. LIFO, Last In First Out 2. <b>FIFO, First In First Out</b> 3. Both a and b 4. Neither a nor b
..... is the term used to delete an element from the stack.	1. Push 2. Pull 3.

	<p><b>Pop</b></p> <p>4. Pump</p>
..... turns out that one can find the shortest paths from a given source to all points in a graph in the same time.	<p>1. Kruskal's algorithm 2. Prim's algorithm 3. <b>Dijkstra algorithm</b> 4. Bellman ford algorithm</p>
A binary tree whose every node has either zero or two children is called .....	<p>1. complete binary tree 2. binary search tree 3. <b>extended binary tree</b> 4. data structure</p>
A connected graph T without any cycles is called .....	<p>1. Free graph 2. No cyclic graph 3. Non cycle graph 4. <b>Trees</b></p>
A pointer variable which contains the location at the top element of the stack is called .....	<p>1. <b>Top</b> 2. Last 3. Final 4. End</p>
A queue is a .....	<p>1. <b>FIFO</b> 2. FILO 3. LOFI 4. LIFO</p>
A sample application of ..... algorithm is to solve critical path problem, i.e. finding the longest path through a DAG.	<p>1. DAG application path algorithm 2. <b>DAG shortest path algorithm</b></p>

	3. DAG critical path algorithm 4. Bellman ford algorithm
A terminal node in a binary tree is called .....	1. Root 2. <b>Leaf</b> 3. Child 4. Branch
Binary trees with threads are called as .....	1. <b>Threaded trees</b> 2. Pointer trees 3. Special Trees 4. Special Pointer trees
Breadth First search is used in	1. Binary trees 2. stacks 3. <b>graphs</b> 4. queues
Deletion operation is done using ..... in a queue.	1. <b>Front</b> 2. Rear 3. Top 4. List
Every node N in a binary tree T except the root has a unique parent called the ..... of N.	1. Antecedents 2. <b>Predecessor</b> 3. Forerunner 4. Precursor
Graph G is ..... if for any pair u, v of nodes in G there is a path from u to v or path from v to u.	1. Leterally connected 2.

	Widely Connected 3. <b>Unliterally connected</b> 4. Literally connected
Header node is used in .....	1. Stacks 2. Queues 3. <b>Linked List</b> 4. Binary trees
Identify the data structure which allows deletions at both ends of the list but insertion at only one end.	1. <b>Input restricted dequeue</b> 2. Output restricted dequeue 3. Priority queue 4. Stack
In _____ tree, the heights of the two child subtrees of any node differ by at most one	1. Binary tree 2. Red Black Tree 3. Splay tree 4. <b>AVL tree</b>
In a 2-tree, nodes with 0 children are called .....	1. Exterior node 2. Outer node 3. <b>External node</b> 4. Inner node
In a graph if $E=(u,v)$ means .....	1. u is adjacent to v but v is not adjacent to u 2. <b>e begins at u and ends at v</b> 3. u is processor and v is successor 4. v is processor and u is successor

In Binary trees nodes with no successor are called .....	1. End nodes 2. <b>Terminal nodes</b> 3. Final nodes 4. Last nodes
In liked representation of stack ..... holds the elements of the stack.	1. <b>INFO fields</b> 2. TOP fields 3. LINK fields 4. NULL fields
In linked representation of stack the null pointer of the last node in the list signals .....	1. Beginning of the stack 2. <b>Bottom of the stack</b> 3. Middle of the stack 4. In between some value
In the linked representation of the stack ..... behaves as the top pointer variable of stack.	1. Stop pointer 2. Begin pointer 3. <b>Start pointer</b> 4. Avail pointer
Key value pair is usually seen in	1. <b>Hash table</b> 2. Heaps 3. Splay trees 4. Skip lists
Linked representation of binary tree needs ..... parallel arrays.	1. 4 2. 2 3. <b>3</b> 4. 5

New nodes are added to the ..... of the queue.	1. Front 2. <b>Back</b> 3. Middle 4. Both ends
On which principle does queue work?	1. FILO 2. LIFO 3. LILO 4. <b>FIFO</b>
Other name for directed graph is .....	1. Direct graph 2. <b>Digraph</b> 3. Dir - graph 4. Directional graph
Rather than build a subgraph one edge at a time ..... builds a tree one vertex at a time.	1. kruskal's algorithm 2. <b>prim's algorithm</b> 3. dijkstra algorithm 4. bellman ford algorithm
Sequential representation of binary tree uses .....	1. <b>Array with pointers</b> 2. Single linear array 3. Two dimensional arrays 4. Three dimensional arrays
Stack follows the strategy of .....	1. <b>LIFO</b> 2. FIFO 3. LRU 4. RANDOM

The ..... process updates the costs of all the vertices V, connected to a vertex U, if we could improve the best estimate of the shortest path to V by including (U,V) in the path to V.	1. Relaxation 2. Improvement 3. Shortening 4. Costing
The elements are removal from a stack in ..... order.	1. Hierarchical 2. Reverse 3. Alternate 4. Sequential
The insertion operation in the stack is called .....	1. insert 2. push 3. pop 4. top
The operation of processing each element in the list is known as .....	1. Sorting 2. Merging 3. Inserting 4. Traversal
The result of prim's algorithm is a total time bound of .....	1. $O(\log n)$ 2. $O(m+n \log n)$ 3. $O(mn)$ 4. $O(m \log n)$
The retrieval of items in a stack is ..... operation.	1. push 2. pop 3. retrieval 4. access

The term enqueue and dequeue is related to	1. Trees 2. Stacks 3. <b>Queues</b> 4. Linked Lists
The term ParentTree and Child is related to	1. <b>Trees</b> 2. Stacks 3. Queues 4. Linked Lists
The term push and pop is related to	1. Trees 2. <b>Stacks</b> 3. Queues 4. Linked Lists
The time required in best case for search operation in binary tree is	1. $O(n)$ 2. <b><math>O(1)</math></b> 3. $O(2n)$ 4. $O(\log n)$
To represent hierarchical relationship between elements, Which data structure is suitable?	1. Dequeue 2. Priority queue 3. <b>Tree</b> 4. Graph
TREE[1]=NULL indicates tree is .....	1. overflow 2. underflow 3. <b>Empty</b> 4. Full

Trees are said ..... if they are similar and have same contents at corresponding nodes.	1. Duplicate 2. Carbon copy 3. Replica 4. <b>Copies</b>
What happens when you push a new node onto a stack?	1. <b>The new node is placed at the front of the linked list</b> 2. The new node is placed at the back of the linked list 3. The new node is placed at the middle of the linked list 4. No Changes happens
What is the peculiarity of red black trees?	1. In red-black trees, the root do not contain data. 2. <b>In red-black trees, the leaf nodes are not relevant and do not contain data.</b> 3. In red-black trees, the leaf nodes are relevant but do not contain data. 4. The nodes are red and black in colour
Which data structure allows deleting data elements from and inserting at rear?	1. Stacks 2. <b>Queues</b> 3. Dequeues 4. Binary Search Tree
Which data structure is used in breadth first search of a graph to hold nodes?	1. Stack 2. <b>Queue</b> 3. Tree 4. Array

Which is the pointer associated with the stack?	1. FIRST 2. FRONT 3. <b>TOP</b> 4. REAR
Which of the following data structure can't store the non-homogeneous data elements?	1. <b>Arrays</b> 2. Records 3. Pointers 4. Stacks
Which of the following data structure is non linear type?	1. Strings 2. Lists 3. Stacks 4. <b>Graphs</b>
Which of the following is an application of stack?	1. finding factorial 2. tower of Hanoi 3. infix to postfix 4. <b>all of the above</b>
Which of the following linked list below have only last node of the list pointing to the first node?	1.circular doubly linked list 2. circular linked list 3. <b>circular singly linked list</b> 4. doubly linked list
Which of the following name does not relate to stacks?	1. <b>FIFO</b> 2. LIFO 3. Piles 4. Push down
Which of the following data structure has cycles?	1.

	<b>Graphs</b> 2. AVL trees 3. Binary search trees 4. Heap trees
_____ fabric produced from plating terry cam.	1. Polar fleece fabric 2. <b>Velour fabric</b> 3. Elastic terry fabric 4. Double face terry fabric
_____ fabrics have more number of binding points.	1. 6 X 6 matt weave 2. 2 X 4 warp rib 3. 1 X 1 plain weave 4. <b>4 X 2 weft rib</b>
_____ is a method repairing the garments where yarns are worked into the weave	1. Threading 2. Piecing 3. Mending 4. <b>Darning</b>
_____ is the assortment of fashion products that a company offers for sale at any point in time.	1. Fashion 2. Collection 3. <b>Product range</b> 4. Gevels
_____ is work aids used in automatic pocket sewing	1. Binders 2. Folders 3. <b>Jigs</b> 4. Hemmers

Fabric defects are assigned point values based on the _____ in the fabric.	1. scope of defect 2. <b>length of defect</b> 3. width of the defect 4. depth of defect
Identify the needle position during loop formation, the latch is closed by the old loop and the new yarn is held by the latch head.	1. Rest position 2. Cast-off position 3. <b>Tucking-in position</b> 4. Knock-over position
One of following is the most important point to be considered for drawing female figures compare to male.	1. Shoulder and hip should be narrower 2. <b>Rib cage and hip shoulder should be narrower</b> 3. Waist and hip shoulder should be narrower 4. Neck and shoulder should be narrower
The _____ refers to the rise, wide popularity or acceptance by masses of people, and then the decline in the acceptance of style	1. <b>Fashion cycle</b> 2. Promotion 3. Design for caste 4. Research
The fabric produced by the bonding and interlocking fibres are called as _____	1. <b>Felting</b> 2. Weaving 3. Netting 4. Knitting
“One-click-try” concept is applicable for _____	1. Just in Time 2. RFID 3.

	Texture Mapping 4. <b>Virtual fitting</b>
Which Indian dress symbolises the synthesis of Hindu-Muslim dress form?	1. Brahmika sari 2. <b>Chapkan</b> 3. Nehru jacket 4. Gandhi's cap
Which of the following was not a change brought about in women's dress as a result of the World Wars?	1. Skirts and hair became shorter 2. Women stopped wearing jewellery 3. <b>Bright colours came into vogue</b> 4. Clothes became plainer and simpler
Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code)	1. <b>100-200</b> 2. 200-400 3. 400-1000 4. above 1000
RAD stands for _____	1. Relative Application Development 2. <b>Rapid Application Development</b> 3. Rapid Application Document 4. Requirement Application Document
_____ read the data by reflecting pulses of laser beams on the surface	1. Magnetic disk 2. <b>Optical disk</b> 3. Floppy disk 4.

	ROM
_____ is the process of determining correctness.	1. Prediction 2. <b>Verification</b> 3. correctness 4. Validation
_____ is an industrialized approach to software development	1. Software Architecture Development 2. <b>Component Based Development</b> 3. Industrial Architecture Development 4. Rapid Architecture Development
_____ is usually expressed in terms of bugs/LOC.	1. MTTR 2. <b>Defect rate</b> 3. MTTF 4. MHRT
_____ model shows how entities are composed of other entities	1. Stimulus response 2. Data processing 3. <b>Composition</b> 4. Architectural
_____ processor has to check continuously till device becomes ready for transferring the data ?	1. DMA 2. <b>Interrupt-initiated I/O</b> 3. IOP 4. DCP
_____ usecase is not complete and has no initiation actors.	1. concrete usecase

	2. <b>Abstract usecase</b> 3. State 4. Activity
_____ are project results delivered to customers	1. Data 2. <b>Deliverables</b> 3. Milestones 4. Output
_____ denotes the measure of strength of association established by a connection from one object to another.	1. Cohesion 2. <b>Coupling</b> 3. Decomposition 4. Elaboration
_____ diagrams show the configuration of run time processing elements and the software components,processes and objects that live in them	1. Usecase 2. <b>Deployment</b> 3. Activity 4. State Chart
_____ is an agile software development technique in which two programmers work together at one workstation	1.HP Programming 2. <b>Pair programming</b> 3. Usecase analysis 4. Prototyping
_____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.	1. Swapping 2. Segmentation 3. Paging 4. <b>Demand paging</b>
_____ is the process of executing a program with the intent of finding errors.	1. Requirements Verification 2. <b>Testing</b>

	3. Design verification 4. Code verification
_____ are used to illustrate the boundaries of a system	1. Data models 2. <b>Context models</b> 3. ER models 4. Entity models
_____ describe system services or functions	1. <b>NonFunctional requirements</b> 2. Design constraints 3. attribute 4. Functional requirements
_____ describes the spiral model as a "process model generator", where choices based on a project's risks generate an appropriate process model for the project.	1. <b>Boehm</b> 2. Royce 3. William Harry 4. Pareto
_____ is a scenario depicting a user system interaction	1. <b>Use Case</b> 2. Attribute 3. Class 4. Object
_____ is a structured document setting out detailed descriptions of the system services	1. <b>Requirements specification document</b> 2. User manual 3. Service document 4. Installation guide
_____ is often used for risk management when an exceptional risk that, though unlikely, would have catastrophic consequences.	1. Business usecase plan 2.

	<p><b>Contingency plan</b></p> <ol style="list-style-type: none"> <li>3.</li> <li>Catastrophic plan</li> <li>4.</li> <li>Process Plan</li> </ol>
_____ prototype is a simulation of the user interface	<ol style="list-style-type: none"> <li>1.</li> <li><b>Horizontal</b></li> <li>2.</li> <li>Analysis</li> <li>3.</li> <li>Domain</li> <li>4.</li> <li>Vertical</li> </ol>
_____ show task dependencies and the the critical path	<ol style="list-style-type: none"> <li>1.</li> <li>Activity charts</li> <li>2.</li> <li><b>Bar chart</b></li> <li>3.</li> <li>State chart</li> <li>4.</li> <li>Event chart</li> </ol>
_____ show the a system and its relationship with other systems	<ol style="list-style-type: none"> <li>1.</li> <li>Data models</li> <li>2.</li> <li>Context models</li> <li>3.</li> <li><b>Architectural models</b></li> <li>4.</li> <li>Entity models</li> </ol>
_____ uses same language to talk about analysis,design,programming and database design	<ol style="list-style-type: none"> <li>1.</li> <li>Traditional software development approach</li> <li>2.</li> <li><b>object oriented approach</b></li> <li>3.</li> <li>waterfall approach</li> <li>4.</li> <li>spiral approach</li> </ol>
_____ acknowledge the programmatic need for milestones, for keeping a project on track, but encourage iterations	<ol style="list-style-type: none"> <li>1.</li> <li><b>Rational Unified Process</b></li> <li>2.</li> <li>Waterfall model</li> <li>3.</li> <li>Sequential model</li> <li>4.</li> <li>Throw away Prototyping</li> </ol>
_____ are a natural way to structure requirements elicitation	<ol style="list-style-type: none"> <li>1.</li> <li>feasibility study</li> </ol>

	2. <b>Viewpoints</b> 3. activity diagram 4. component view
_____ are expressed in a mathematical notation with precisely defined vocabulary, syntax and semantics.	1. <b>Formal specifications</b> 2. Data specifications 3. Requirements specification 4. Design specifications
_____ diagrams are called as Implementation diagram.	1. Component and Collaboration 2. Component and State chart 3. <b>Component and Deployment</b> 4. Sequence and Collaboration
_____ is an approach to software development that allows us to create objects that represent tangible elements of the business independent of how they are represented to the user through an interface or physically stored in a database.	1.waterfall 2. Structured architecture 3. Layered Architecture 4. <b>Software architecture</b>
_____ is an inherent part of most prototype development systems	1. Traditional programming 2. DOS Programming 3.Fortran Programming 4. <b>Visual programming</b>
_____ is the number of functions which are called by function X	1. Cohesion 2. Coupling 3. <b>Fan-out</b> 4. Fan-in
_____ acknowledges that we do not understand all the requirements and builds only those that are well understood	1. Throw away Prototyping 2. Paper prototyping 3.

	<p><b>Evolutionary prototyping</b></p> <p>4. Storyboarding</p>
<p>_____ are an alternative function-related measure to function points when 4GLs or similar languages are used for development</p>	<p>1. Object class 2. <b>Object points</b> 3. function points 4. kloc</p>
<p>_____ chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way</p>	<p>1. <b>PERT</b> 2. Bar 3. Network 4. Project</p>
<p>_____ in the textual description are considered to be methods of classes</p>	<p>1. Adjectives 2. Nouns 3. Pronouns 4. <b>Verb</b></p>
<p>_____ is a version of software product developed in the early stages of product's life cycle for specific and experimental purposes.</p>	<p>1. Class 2. <b>Prototype</b> 3. Object 4. Requirements</p>
<p>_____ is the interaction between software components or objects.</p>	<p>1. Aggregation 2. Coupling 3. Decomposition 4. <b>Cohesion</b></p>
<p>_____ is the process of checking the requirements for validity, consistency, completeness, realism and verifiability.</p>	<p>1. Requirement gathering 2. Requirement specification 3.</p>

	Requirement documentation 4. <b>Requirements validation</b>
_____ is to test every statement in the objects method by executing it at least once.	1.Bottom up testing 2. Topup testing 3. <b>Statement testing coverage</b> 4. Integration testing
_____ techniques include the use of very high-level languages, database programming and prototype construction from reusable components	1. Requirement analysis 2. <b>Prototyping</b> 3. Implementation 4. Design
_____ is an effective and decorative way of distributing fullness over a given area	1. <b>Gathers</b> 2. Flares 3. Godets 4. Pleats
_____ affect the organisation developing or procuring the software	1. Emergent risks 2. Product risks 3. People risks 4. <b>Business risks</b>
_____ are responsible for producing or consuming data	1. objects 2. class 3. <b>Viewpoints</b> 4. Input device
_____ is an engineering discipline which is concerned with all aspects of software production.	1. Systems Engineering 2. Computer engineering 3. <b>Software engineering</b> 4.

	Production Engineering
_____ method is used to establish priority by serially connecting all devices that request an interrupt.	1. Vectored-interrupting 2. <b>Daisy chain</b> 3. Priority 4. Polling
_____ provides a broad view of an entire system or subsystem, focusing on user interaction more than low-level system functionality, such as database access.	1. Rapid prototype 2. Analysis prototype 3. <b>Horizontal prototype</b> 4. Vertical prototype
_____ register keeps tracks of the instructions stored in program stored in memory.	1. AR (Address Register) 2. XR (Index Register) 3. <b>PC (Program Counter)</b> 4. AC (Accumulator)
_____ is referred to as generalisation and is shown ‘upwards’ rather than ‘downwards’ in a hierarchy	1. Aggregation 2. <b>Inheritance</b> 3. Composition 4. Decomposition
_____ may be used to show the processes and the flow of information from one process to another	1. <b>Data flow models</b> 2. ER model 3. Architecture model 4. Context models
_____ show schedule against calendar time	1. Activity chart 2. <b>Bar charts</b>

	3. state chart 4. event chart
<p>_____ are used to describe the logical structure of data processed by the system</p>	1. State machine 2. Context model 3. Architectural model 4. <b>Semantic data models</b>
<p>_____ are rectangles with the name at the top, attributes in the middle section and operations in the bottom section</p>	1. DFD 2. State machine 3. <b>Object classes</b> 4. Entity
<p>_____ can be created quickly from a set of reusable components plus some mechanism to ‘glue’ these component together</p>	1. Design 2. Entity 3. <b>Prototypes</b> 4. Component
<p>_____ are lists of all of the names used in the system models.</p>	1. System model list 2. <b>Data dictionaries</b> 3. HAsh table 4. Entity list
<p>_____ are the end-point of a process activity</p>	1. Deliverables 2. <b>Milestones</b> 3. Outcome 4. Output
<p>_____ helps the analyst to understand the functionality of the system and models are used to communicate with customers</p>	1. Business modelling 2. Project scheduling

	3. <b>System modelling</b> 4. Project planning
<p>_____ involves executing the system with test cases that are derived from the specification of the real data to be processed by the system</p>	1. Design verification 2. <b>System testing</b> 3. Debugging 4. Requirements validation
<p>_____ is concerned with modifying the system after it is in use</p>	1. Design 2. Coding 3. Analysis 4. <b>Evolution</b>
<p>_____ have no instances but define the common behaviors that can be inherited by more specific classes</p>	1. Concrete class 2. Base class 3. <b>Abstract classes</b> 4. Facade class
<p>_____ provides a scheme for refining the subsystems or components of a software system or the relationship among them.</p>	1. Decomposition 2. <b>Design pattern</b> 3. Architecture 4. MVC
<p>_____ can be suited to projects where requirements and scope are fixed, the product itself is firm and stable, and the technology is clearly understood</p>	1. Incremental model 2. Prototyping model 3. <b>Waterfall model</b> 4. Spiral model
<p>_____ refers to user interface prototype</p>	1. vertical prototype 2. domain prototype

	3. analysis prototype 4. <b>horizontal prototype</b>
<p>_____ clarifies complex requirements by drilling down to actual system functionality.</p>	1. Horizontal prototype 2. <b>Vertical prototype</b> 3. Analysis prototype 4. Domain prototype
<p>_____ refers to the creation of a model that will eventually be discarded rather than becoming part of the final delivered software.</p>	1. Waterfall model 2. <b>Throwaway prototyping</b> 3. Analysis 4. Evolutionary prototyping
<p>_____ is the task of predicting correspondence</p>	1. <b>Validation</b> 2. Verification 3. correctness 4. prediction
<p>_____ models that show the systems response to events</p>	1. ER diagram 2. <b>State machine</b> 3. Context diagram 4. Event diagram
<p>_____ are a natural way to structure requirements elicitation</p>	1. DBMS 2. <b>Viewpoints</b> 3. Process model 4. Methods
<p>_____ checks the consistency of routine and procedure declarations and their use.</p>	1. Database analysis 2. <b>Interface analysis</b>

	3. Business layer analysis 4. Path analysis
<p>_____ are assumptions or relationships among model elements specifying conditions and propositions that must be maintained as true.</p>	1. Class 2. stereotype 3. <b>constraints</b> 4. Node
<p>_____ in the UML are used to model interaction between objects</p>	1. Usecase diagram 2. State machine 3. <b>Sequence diagrams</b> 4. Component diagram
<p>_____ affect schedule or resources</p>	1. Product risks 2. <b>Project risks</b> 3. Business risks 4. Hardware risks
<p>_____ don't know what they really want</p>	1. Analyst 2. Programmers 3. Designers 4. <b>Stakeholders</b>
<p>_____ is the process of formally documenting the user and system requirements and creating a software requirements document.</p>	1. Feasibility study 2. Requirements specification 3. Requirement verification 4. <b>Requirement specification</b>
<p>_____ shows how entities have common characteristics</p>	1. Data processing model 2. <b>Classification model</b>

	3. Architectural model 4. Stimulus/response model
<p>_____ can be viewed as a collection of procedures or behaviours that, taken together, reflect the behaviour of a system over time.</p>	1. Static model 2. Dynamic model 3. <b>Implementation model</b> 4. Architectural model
<p>_____ shows the system's reaction to events</p>	1. Data processing model 2. Composition model 3. <b>Stimulus/response model</b> 4. Classification model
<p>_____ shows the system's context or environment</p>	1. Behavioural perspective 2. Structural perspective 3. Cognitive perspective 4. <b>External perspective</b>
<p>_____ state in a state chart is shown as a circle surrounding a small dot,a bull's-eye.</p>	1. Initial 2.Middle 3. Intermediate 4. <b>Final</b>
<p>_____ may be used to 'draw' the interface and simulate its functionality with components associated with interface entities</p>	1. Developer 2. visual generators 3. <b>User interface generators</b> 4. Program generators
<p>_____ emphasize the use of events and states to determine the overall activity of the system.</p>	1. <b>State diagram</b> 2. Usecase Diagram 3. Sequence Diagram

	4. Component diagram
_____ relies on constant code improvement, user involvement in the development team and pairwise programming .	1. <b>Extreme programming</b> 2. Spiral approach 3. Prototyping 4. Waterfall approach
_____ testing exercises the system beyond its maximum design load .	1. usability 2. <b>stress</b> 3. acceptance 4. beta
_____ approach to systems development rapidly develops software to quickly and incrementally implement the design by using tools such as CASE.	1. SAD 2. <b>RAD</b> 3. MAC 4. CSC
_____ identifies generalities among entities	1. Process 2. Data hiding 3. Partitioning 4. <b>Abstraction</b>
_____ identifies the structural (part-of) relationships between entities	1. Data hiding 2. Projection 3. Partitioning 4. <b>Abstraction</b>
_____ model is suitable for software development ,when the requirements are well defined	1.Prototyping 2.Formal specification 3.Spiral 4. <b>Waterfall</b>
_____ perspective shows the system or data architecture	1.

	Source 2. <b>Structural</b> 3. Behavioral 4. External
_____ encapsulates core data and functionality.	1. <b>model</b> 2. view 3. controller 4. facade
_____ prototype is an aid for exploring the problem domain	1. vertical 2. <b>analysis</b> 3. horizontal 4. domain
A 4-way set-associative cache memory unit with a capacity of 16 KB is built using a block size of 8 words. The word length is 32 bits. The size of the physical address space is 4 GB. The number of bits for the TAG field is _____	1. 5 2. 15 3. <b>20</b> 4. 25
A 8bit flip-flop will have	1. 2 binary cells 2. 4 binary cells 3. 6 binary cells 4. <b>8 binary cells</b>
A _____ is a function or procedure that is defined for a class and typically can access the internal state of an object of that class to perform some operation	1. attribute 2. <b>method</b> 3. class 4. object

A _____ is an implementation of an object's behavior	1. <b>method</b> 2. attribute 3. class 4. object
A _____ is a probability that some adverse circumstance will occur.	1. plan 2. <b>risk</b> 3. schedule 4. milestone
A _____ strategy can detect the serious flaws early in the implementation.	1. bottom up testing 2. testing 3. <b>top down testing</b> 4. integration testing
A _____ is instructive information that captures the essential structure and insight of a successfully family of proven solutions to a recurring problem that arises within certain context and system of forces	1. class 2. <b>pattern</b> 3. model 4. component
A _____ is an old system that still provides essential business services	1. biometric system 2. database system 3. <b>legacy system</b> 4. OBS system
A _____ is the one that has a high probability of detecting an as-yet undiscovered error	1. bad test cases 2. <b>good test cases</b> 3. average test cases 4. worst test cases

A _____ decides whether or not the proposed system is worthwhile	<ol style="list-style-type: none"> <li>1. planning</li> <li>2. requirement elicitation</li> <li>3. <b>feasibility study</b></li> <li>4. requirement validation</li> </ol>
A _____ is a more complete elaboration of a single subsystem or function	<ol style="list-style-type: none"> <li>1. horizontal prototype</li> <li>2. <b>vertical prototype</b></li> <li>3. domain prototype</li> <li>4. analysis prototype</li> </ol>
A _____ can be viewed as a snapshot of a system's parameters at rest or at a specific point in time.	<ol style="list-style-type: none"> <li>1. Dynamic model</li> <li>2. <b>Static model</b></li> <li>3. Event model</li> <li>4. Working model</li> </ol>
A B-tree grows at .....	<ol style="list-style-type: none"> <li>1. root</li> <li>2. <b>leaves</b></li> <li>3. branches</li> <li>4. stem</li> </ol>
A BCD counter is a	<ol style="list-style-type: none"> <li>1. mod-5 counter</li> <li>2. <b>mod-10 counter</b></li> <li>3. mod-15 counter</li> <li>4. mod-20 counter</li> </ol>
A binary number's value changes most drastically when the _____ is changed.	<ol style="list-style-type: none"> <li>1. <b>MSB</b></li> <li>2. Frequency</li> <li>3. LSB</li> <li>4. Duty Cycle</li> </ol>
A binary tree grows at .....	<ol style="list-style-type: none"> <li>1. root</li> </ol>

	<p>2. leaves 3. branches 4. stem</p>
A binary variable can take values	<p>1. 0 only 2. 0 and -1 3. <b>0 and 1</b> 4. 1 and 2</p>
A company is developing an advance version of their current software available in the market, what model approach would they prefer?	<p>1. RAD 2. Iterative Enhancement 3. <b>Both a &amp; b</b> 4. Spiral</p>
A computer has twenty physical page frames which contain pages numbered 101 through 120. Now a program accesses the pages numbered 1, 2, ..., 100 in that order, and repeats the access sequence THRIC. Which one of the following page replacement policies experiences the same number of page faults as the optimal page replacement policy for this program?	<p>1.Last-in-first-out 2. First-in-first-out 3.Least-recently-used <b>4. Most-recently-used</b></p>
A computer system supports 32-bit virtual addresses as well as 32-bit physical addresses. Since the virtual address space is of the same size as the physical address space, the operating system designers decide to get rid of the virtual memory entirely. Which one of the following is true?	<p>1. Efficient implementation of multi-user support is no longer possible 2. The processor cache organization can be made more efficient now 3. <b>Hardware support for memory management is no longer needed</b> 4.</p>

	CPU scheduling can be made more efficient now
A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128 page table entries and is 4-way set associative. The minimum size of the TLB tag is:	<p>1. 11 bits 2. 13 bits 3. <b>15 bits</b> 4. 18 bits</p>
A data structure is required for storing a set of integers such that each of the following operations can be done in $(\log n)$ time, where $n$ is the number of elements in the set. <ul style="list-style-type: none"> <li>o Deletion of the smallest element</li> <li>o Insertion of an element if it is not already present in the set</li> </ul> Which of the following data structures can be used for this purpose?	<p>1. A heap can be used but not a balanced binary search tree 2. <b>A balanced binary search tree can be used but not a heap</b> 3. Both balanced binary search tree and heap can be used 4. Neither balanced binary search tree nor heap can be used</p>
A decimal counter has	<p>1. 5 states 2. <b>10 states</b> 3. 15 states 4. 20 states</p>
A decoder converts _____.	<p>1. noncoded information into coded form 2. <b>coded information into noncoded form</b> 3. HIGHs to LOWs 4. LOWs to HIGHs</p>
A demultiplexer has _____.	<p>1. <b>one data input and a number of selection inputs, and they have several outputs</b> 2. one input and one output 3.</p>

	several inputs and several outputs 4. several inputs and one output
A flipflop can maintain a _____.	1. n states 2. tri state 3. <b>binary state</b> 4. octa state
A full subtractor circuit requires _____.	1. two inputs and two outputs 2. two inputs and three outputs 3. three inputs and one output 4. <b>three inputs and two outputs</b>
A group of binary cells is called	1. counter 2. <b>register</b> 3. latch 4. flipflop
A leaky bucket algorithm shapes bursty traffic into fixed-rate traffic by averaging the	1. <b>Data Rate</b> 2. Average Rate 3. Traffic Rate 4. Traffic Shaping
A memory buffer used to accommodate a speed differential is called	1. stack pointer 2.  <b>cache</b> 3. accumulator 4. disk buffer

A memory buffer used to accommodate a speed differential is called	1. stack pointer 2. <b>cache</b> 3. accumulator 4. disk buffer
A message is much more general than a _____.	1. <b>function call</b> 2. object 3. class 4. state
A microprogram is sequencer perform the operation ?	1. Read 2. Write 3. Read and Write 4. <b>Read and Execute</b>
A multi-dimensional array array[0:2, 10:20, 3:4, -10:2] contains _____ elements.	1.240 2. <b>858</b> 3.390 4.160
A multilevel page table is preferred in comparison to a single level page table for translating virtual address to physical address because	1. It reduces the memory access time to read or write and memory location 2. <b>It helps to reduce the size of page table needed to implement the virtual address space of a process</b> 3. It is required by the translation lookaside buffer 4. It helps to reduce the number of page faults in page replacement algorithms.

<p>A network with Bandwidth of 10 Mbps can pass only an average of 12000 frames per minute with each frame carrying an average of 10000 bits. What is the throughput of this network</p>	<ol style="list-style-type: none"> <li>1. 5Mbps</li> <li>2. 10Mbps</li> <li>3. <b>2Mbps</b></li> <li>4. 100Mbps</li> </ol>
<p>A non-relocatable program is one which</p>	<ol style="list-style-type: none"> <li>1. <b>cannot be made to execute in any area of storage other than the one designated for it at the time of its coding or translation.</b></li> <li>2. can itself performs the relocation of its address-sensitive portions.</li> <li>3. consists of a program and relevant information for its relocation.</li> <li>4. None of the above</li> </ol>
<p>A number in scientific notation, that has no leading 0s is called a</p>	<ol style="list-style-type: none"> <li>1. Denormalized number</li> <li>2. <b>Normalized number</b></li> <li>3. Integers</li> <li>4. Whole number</li> </ol>
<p>A packet which is sent by a node to source to inform it of congestion is called</p>	<ol style="list-style-type: none"> <li>1. Control Packet</li> <li>2. Congestion Packet</li> <li>3. Change Packet</li> <li>4. <b>Choke Packet</b></li> </ol>
<p>A page fault occurs ?</p>	<ol style="list-style-type: none"> <li>1. <b>when the page is not in the memory</b></li> <li>2. when the page is in the memory</li> <li>3. when the process enters the blocked state</li> <li>4.</li> </ol>

	when the process is in the ready state
A process executes the code fork(); fork(); fork(); The total number of child processes created is	1. 3 2. 4 3. <b>7</b> 4. 8
A process is thrashing if:	1. it is spending less time paging than executing 2. swapping can not take place 3. <b>it is spending more time paging than executing</b> 4. page fault occurs
A RAM chip has a capacity of 1024 words of 8 bits each ( $1K \times 8$ ). The number of $2 \times 4$ decoders with enable line needed to construct a $16K \times 16$ RAM from $1K \times 8$ RAM is	1. 4 2. <b>5</b> 3. 6 4. 7
A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero?	1. This algorithm is equivalent to the first-come-first-serve algorithm 2. <b>This algorithm is equivalent to the round-robin algorithm.</b> 3. This algorithm is equivalent to the shortest-job-first algorithm.. 4. This algorithm is equivalent to the shortest-remaining-time-first algorithm
A self contained block of statements that perform a coherent task of some kind is called a?	1. Monitor 2. <b>Function</b> 3.

	Program 4. Structure
A set of physical addresses is also known as _____	1. Disk Space 2. Address Space 3. <b>Memory Space</b> 4. Locations
A social scientist spends a considerable time observing and analysing how people actually work is said to be _____	1. analysis 2. <b>ethnographic analysis</b> 3. usecase analysis 4. design verification
A system program that combines the separately compiled modules of a program into a form suitable for execution	1. load and go 2. assembler 3. <b>linking loader</b> 4. cross compiler
A system program that sets up an executable program in main memory ready for execution is	1. assembler 2. linker 3. compiler 4. <b>loader</b>
A system uses FIFO policy for page replacement. It has 4 page frames with no pages loaded to begin with. The system first accesses 100 distinct pages in some order and then accesses the same 100 pages but now in the reverse order. How many page faults will occur ?	1. <b>196</b> 2. 197 3. 194 4. 198
A system which supports _____ allows object classes to inherit from several super-classes	1. Multi path inheritance 2.

	<p>Hierarchical inheritance      3.  <b>Multiple inheritance</b>      4.      Simple Inheritance</p>
A thread is usually defined as a ‘light weight process’ because an operating system (OS) maintains smaller data structures for a thread than for a process. In relation to this, which of the followings is TRUE?	<p>1.      On per-thread basis, the OS maintains only CPU register state      2.      The OS does not maintain a separate stack for each thread      3.  <b>On per-thread basis, the OS does not maintain virtual memory state</b>      4.      On per thread basis, the OS maintains only scheduling and accounting information.</p>
According to a statistical report: “over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features”. What must be the reason for such a situation?	<p>1.      Poor change management      2.  <b>Poor requirements management</b>      3.      Poor quality control      4.      All of the mentioned</p>
According to Boolean algebra $x \cdot x$ is equal to	<p>1.  <b>x</b>      2.      1      3.      0      4.  <math>x'</math></p>
Adder subtractor operating on mode 1 at ( $X \text{ xor } 1$ ) gives	<p>1.      1      2.      0      3.  <math>x</math>      4.  <b><math>x'</math></b></p>
Addition of -6 and -13	<p>1.  <b>11101101</b>      2.</p>

	11101010 3. 11101110 4. 11111010
Addressing mode used in instruction add r1,r2,r3 is	1. Indirect 2. Base 3. <b>Register</b> 4. Immediate
After 9 counts BCD counter goes back to	1. <b>0</b> 2. 9 3. 1 4. 10
After the following code fragment, what is the value in fname?  String str; int fname; str = "Foolish boy.;" fname = str.indexOf("fool");	1.0 2.2 <b>3.-1</b> 4.4
All key stakeholders gathers together for a short but intensely focused period for _____	1. Ethanography 2. <b>Requirement workshop</b> 3. Interviewing 4. Business meeting
All the wrapper classes (Integer, Boolean, Float, Short, Long, Double and Character) in java	1. are private 2. are serializable 3. are immutable 4. <b>are final</b>
An empty list is one which has no	1. nodes 2.

	data 3. <b>nodes and data</b> 4. address
An encoder converts _____.	1. <b>noncoded information into coded form</b> 2. coded information into noncoded form 3. HIGHs to LOWs 4. LOWs to HIGHs
An identity element w.r.t addition	1. $x-1$ 2. $x+1$ 3. $x-0$ 4. <b><math>x+0</math></b>
An interrupt that can be temporarily ignored is	1. Vectored interrupt 2. Non-maskable interrupt 3. <b>Maskable interrupt</b> 4. High priority interrupt
An interrupt that is reserved for unrecoverable memory errors is called.....	1. maskable interrupt 2. <b>non maskable interrupt</b> 3. Both (1) & (2) 4. None of the above
An _____, start with the best understood parts	1. throw away prototype 2. <b>evolutionary prototype</b> 3. design prototype 4.

	coding prototype
AND gates are converted to NAND gates using	1. invert OR 2. <b>AND invert</b> 3. NAND invert 4. NOR
Anshi's IP address is 192.168.1.21 and uses mask of 255.255.255.240. Jenny's IP is 192.168.1.14/28. Their computers are connected together using a crossover Ethernet cable. Why can't they ping each other?	1. <b>The subnet masks are different</b> 2. Because they are in different subnets. 3. Because the router does not support subnetting 4. Because it should be a straight through cable.
Any number with an exponent of zero is equal to:	1. zero 2. <b>one</b> 3. that number 4. ten
Applications like Banking and reservations require which type of OS?	1. Real Time 2. Hard Real Time 3. <b>Soft Real Time</b> 4. None of the above
Arrange the following steps to form a basic/general Engineering Process Model 1. Test, 2. Design, 3. Install, 4. Specification, 5. Manufacture, 6. Maintain	1. 2, 4, 5, 1, 6, 3 2. <b>4, 2, 5, 1, 3, 6</b>  3. 2, 4, 5, 1, 3, 6  4. 4, 2, 5, 1, 6, 3

<p>As per Boolean algebra theorem <math>(x')'</math> is equal to</p>	<ol style="list-style-type: none"> <li>1.</li> <li>x'</li> <li>2.</li> <li><b>x</b></li> <li>3.</li> <li>1</li> <li>4.</li> <li>0</li> </ol>
<p>ASCII stands for</p>	<ol style="list-style-type: none"> <li>1. African standard code for information interchange</li> <li>2. American standard code for integer interchange</li> <li>3. <b>American standard code for information interchange</b></li> <li>4. African standard code for integer interchange</li> </ol>
<p>Assign the proper odd parity bit to the code 111001.</p>	<ol style="list-style-type: none"> <li>1. 1111011</li> <li>2. <b>1111001</b></li> <li>3. 0111111</li> <li>4. 0011111</li> </ol>
<p>Assume that a File is an abstract class and has toFile() method. ImageFile and BinaryFile are concrete classes of the abstract class File.</p> <p>Also, assume that the method toFile() is implemented in both Binary File and Image File. Which implementation method will be called when a File references an ImageFile object in memory and the toFile method is called?</p>	<ol style="list-style-type: none"> <li>1. Binary File</li> <li>2. <b>Image File</b></li> <li>3. Both File and Binary Files</li> <li>4. none</li> </ol>
<p>Assume that the value 3929.92 is of type ‘float’. How to assign this value after declaring the variable ‘interest’ of type float?</p>	<ol style="list-style-type: none"> <li>1. interest = 3929.92</li> <li>2. interest = (Float)3929.92</li> <li>3. interest = 3929.92 (float)</li> <li>4. <b>interest = 3929.92f</b></li> </ol>
<p>Assume that there are 3 page frames which are initially empty. If the page reference string is 1, 2, 3, 4, 2, 1, 5, 3, 2, 4, 6, the number of page faults using the optimal replacement policy is _____.</p>	<ol style="list-style-type: none"> <li>1.</li> <li>5</li> <li>2.</li> <li>6</li> </ol>

	<p>3. 8 4. <b>7</b></p>
<p>Assume the following method is properly synchronized and called from a thread A on an object B:  <b>wait(2000);</b>  After calling this method, when will the thread A become a candidate to get another turn at the CPU?</p>	<p>1.  <b>After thread A is notified, or after two seconds.</b>  2.  After the lock on B is released, or after two seconds.  3.  Two seconds after thread A is notified.  4.  Two seconds after lock B is released.</p>
<p>Asynchronous sequential logic circuits are used when primary need is</p>	<p>1.  time  2.  pressure  3.  <b>speed</b>  4.  accuracy</p>
<p>At Conceptual level Class diagrams should include:</p>	<p>1.  operations only    2.  <b>attributes only</b>  3.constants 4.  Variables</p>
<p>At start of addition carry flag is</p>	<p>1.  enabled  2.  stored  3.  <b>cleared</b>  4.  loaded</p>
<p>At start of lamp handball game ball (indicator lamp) is placed at</p>	<p>1.  top  2.  left  3.  bottom  4.  <b>right</b></p>

BCD stands for	1. binary counter design 2. binary counter decimal 3. binary coded design 4. <b>binary coded decimal</b>
BCD to 7 segment is	1. <b>decoder</b> 2. encoder 3. mux 4. demux
Because of virtual memory, the memory can be shared among:	1. threads 2.none of the mentioned 3.instructions 4. <b>processes</b>
Besides nand gate universal gate is	1. AND gate 2. OR gate 3. <b>NOR gate</b> 4. XOR gate
Binary code that distinguishes ten elements must contain at least	1. Two Bits 2. Three Bits 3. <b>Four Bits</b> 4. Five Bits
Binary counter that count incrementally and decremently is called	1. <b>up-down counter</b> 2. LSI counters 3. down counter 4. up counter
Binary logic consists of binary values and	1.

	Arithmetic operations 2. <b>Logical operations</b> 3. Numeric operations 4. Addition operations
Binary ripple counter is made up of	1. T flipflop 2. JK flipflop 3. RS flipflop 4. <b>T and JK flip flop</b>
Borrow in two bit (x,y) subtraction is 0, as long as	1. $y > x$ 2. $x = y$ 3. <b><math>x \geq y</math></b> 4. $y \geq x$
By default counters are incremented by	1. <b>1</b> 2. 2 3. 3 4. 4
Cache memory acts between	1. <b>CPU and RAM</b> 2. RAM and ROM 3. CPU and Hard Disk 4. CPU and ROM
Cache memory-	1. has greater capacity than RAM 2. is faster to access than CPU Registers 3. is permanent storage 4. <b>faster to access than RAM</b>

Change in state from 00 to 11 will cause change in	<ol style="list-style-type: none"> <li>1. first variable</li> <li>2. second variable</li> <li>3. third variable</li> <li>4. all variables</li> </ol>
Change in state occurs during	<ol style="list-style-type: none"> <li>1. pulse transition</li> <li>2. outputs</li> <li>3. clock pulses</li> <li>4. inputs</li> </ol>
Characters that can be specified in 6-bit code are	<ol style="list-style-type: none"> <li>1. 61</li> <li>2. 62</li> <li>3. 63</li> <li>4. 64</li> </ol>
Circuits that employ memory elements in addition to gates is called	<ol style="list-style-type: none"> <li>1. combinational circuit</li> <li>2. sequential circuit</li> <li>3. combinational sequence</li> <li>4. series</li> </ol>
Class diagram is a _____ aspect of collaboration	<ol style="list-style-type: none"> <li>1. object</li> <li>2. structural</li> <li>3. behavioral</li> <li>4. model</li> </ol>
<pre>class X implements Runnable {     public static void main(String args[])     {         /* Missing code? */     }     public void run() {} }</pre>	<ol style="list-style-type: none"> <li>1. Thread t = new Thread(X);</li> <li>2. Thread t = new Thread(X); t.start();</li> <li>3. X run = new X(); Thread t = new Thread(run); t.start();</li> <li>4.</li> </ol>

<p>}</p> <p>Which of the following line of code is suitable to start a thread ?</p>	<pre>Thread t = new Thread(); x.run();</pre>
<p>class X, class Y and class Z are derived from class BASE. This is _____ inheritance</p>	<ol style="list-style-type: none"> <li>1. Multiple</li> <li>2. Multilevel</li> <li>3. Hierarchical</li> <li>4. Single</li> </ol>
<p>Classification of sequential circuit depends on timings of their</p>	<ol style="list-style-type: none"> <li>1. feedback path</li> <li>2. gates</li> <li>3. signals</li> <li>4. complex circuits</li> </ol>
<p>Clock generator, generates periodic train of</p>	<ol style="list-style-type: none"> <li>1. feedback path</li> <li>2. gates</li> <li>3. clock pulses</li> <li>4. sine pulses</li> </ol>
<p>Code conversion circuits mostly uses</p>	<ol style="list-style-type: none"> <li>1. AND-OR gates</li> <li>2. AND gates</li> <li>3. OR gates</li> <li>4. XOR gates</li> </ol>
<p>Code not included in code conversion standard is</p>	<ol style="list-style-type: none"> <li>1. BCD code</li> <li>2. gray code</li> <li>3.</li> </ol>

	excess3 code 4. <b>truth table</b>
Combinations that are not listed for input variables are	1. overflows 2. carry 3. <b>don't cares</b> 4. zero bits
Connection from output to one of input gate is	1. undefined 2. shifted 3. <b>feedback</b> 4. wire
Consider a disk system with 100 cylinders. The requests to access the cylinders occur in following sequence : 4, 34, 10, 7, 19, 73, 2, 15, 6, 20 Assuming that the head is currently at cylinder 50, what is the time taken to satisfy all requests if it takes 1 ms to move from one cylinder to adjacent one and shortest seek time first policy is used ?	1.95ms <b>2.119 ms</b> 3.233 ms 4.276 ms
Consider a hypothetical processor with an instruction of type LW R1, 20(R2), which during execution reads a 32-bit word from memory and stores it in a 32-bit register R1. The effective address of the memory location is obtained by the addition of a constant 20 and the contents of register R2. Which of the following best reflects the addressing mode implemented by this instruction for operand in memory.	1. Immediate Addressing 2. Register Addressing 3. Register Indirect Scaled Addressing 4. <b>Base Indexed Addressing</b>

<p>Consider a set of n tasks with known runtimes , r1 r2..... rn to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput ?</p>	<ol style="list-style-type: none"> <li>1. First-come-First-Served</li> <li>2. Round-Robin</li> <li>3. <b>SJF</b></li> <li>4. Highest-Response-Ratio-Next</li> </ol>
<p>Consider a system having m resources of the same type. These resources are shared by 3 processes A, B and C which have peak demands of 3, 4 and 6 respectively. For what value of m deadlock will not occur ?</p>	<ol style="list-style-type: none"> <li>1. 7</li> <li>2. 9</li> <li>3. 10</li> <li>4. <b>13</b></li> </ol>
<p>Consider the following Statement: “The output of a program shall be given within 10secs of event X 10% of the time”. What characteristic of SRS is being depicted here?</p>	<ol style="list-style-type: none"> <li>1. Consistent</li> <li>2. <b>Verifiable</b></li> <li>3. Non-verifiable</li> <li>4. Correct</li> </ol>
<p>Consider the following code fragment:</p> <pre><b>if</b> (fork() == 0) { a = a + 5; <b>printf</b>("%d,%d\n", a, &amp;a); } <b>else</b> { a = a -5; <b>printf</b>("%d, %d\n", a, &amp;a); }</pre> <p>Let u, v be the values printed by the parent process, and y be the values printed by the child process. Which one of the following is TRUE?</p>	<ol style="list-style-type: none"> <li>1. u = x + 10 and v = y</li> <li>2. u = x + 10 and v != y</li> <li>3. <b>u + 10 = x and v = y</b></li> <li>4. u + 10 = x and v != y</li> </ol>
<p>Consider the following code snippet. What will be assigned to the variable fourthChar, if the code is</p>	<ol style="list-style-type: none"> <li>1. 'a'</li> </ol>

<p>executed?</p> <pre>String str = new String("Java"); char fourthChar = str.charAt(4);</pre>	<p>2. 'v' 3. null character 4. throws <b>StringIndexOutOfBoundsException</b> xception</p>												
<p>Consider the following sequence of micro-operations.</p> <pre>MBR ← PC MAR ← X PC ← Y Memory ← MBR</pre> <p>Which one of the following is a possible operation performed by this sequence?</p>	<p>1.Instruction fetch 2.Operand fetch 3.Conditional branch 4.<b>Initiation of interrupt service</b></p>												
<p>Consider the following statements about user level threads and kernel level threads. Which one of the following statements is FALSE?</p>	<p>1. Context switch time is longer for kernel level threads than for user level threads 2. Related kernel level thread can be scheduled on different processors in a multiprocessor system 3. User level threads do not need any hardware support 4. <b>Blocking one kernel level thread blocks all related threads</b></p>												
<p>Consider the following table of arrival time and burst time for three processes P0, P1 and P2.</p> <table border="1" data-bbox="182 1695 611 1897"> <thead> <tr> <th>Process</th> <th>Arrival time</th> <th>Burst Time</th> </tr> </thead> <tbody> <tr> <td>P0</td> <td>0 ms</td> <td>9 ms</td> </tr> <tr> <td>P1</td> <td>1 ms</td> <td>4 ms</td> </tr> <tr> <td>P2</td> <td>2 ms</td> <td>9 ms</td> </tr> </tbody> </table> <p>The pre-emptive shortest job first scheduling algorithm is used. Scheduling is carried out only at</p>	Process	Arrival time	Burst Time	P0	0 ms	9 ms	P1	1 ms	4 ms	P2	2 ms	9 ms	<p><b>1.5.0 ms</b> 2.4.33 ms 3.6.33 4. 7.33</p>
Process	Arrival time	Burst Time											
P0	0 ms	9 ms											
P1	1 ms	4 ms											
P2	2 ms	9 ms											

<p>arrival or completion of processes. What is the average waiting time for the three processes?</p>	
<p>Consider the virtual page reference string 1, 2, 3, 2, 4, 1, 3, 2, 4, 1 On a demand paged virtual memory system running on a computer system that main memory size of 3 pages frames which are initially empty. Let LRU, FIFO and OPTIMAL denote the number of page faults under the corresponding page replacements policy. Then (A) OPTIMAL &lt; LRU &lt; FIFO (B) OPTIMAL &lt; FIFO &lt; LRU (C) OPTIMAL = LRU (D) OPTIMAL = FIFO</p>	<p>1. OPTIMAL &lt; LRU &lt; FIFO 2. <b>OPTIMAL &lt; FIFO &lt; LRU</b> 3. OPTIMAL = FIFO 4. OPTIMAL &lt;= FIFO</p>
<p>Consider three CPU-intensive processes, which require 10, 20 and 30 time units and arrive at times 0, 2 and 6, respectively. How many context switches are needed if the operating system implements a shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end.</p>	<p>1. 1 2. <b>2</b> 3. 3 4. 4</p>
<p>Consider three processes (process id 0, 1, 2 respectively) with compute time bursts 2, 4 and 8 time units. All processes arrive at time zero. Consider the longest remaining time first (LRTF) scheduling algorithm. In LRTF ties are broken by giving priority to the process with the lowest process id. The average turn around time is:</p>	<p>1. <b>13 units</b> 2. 14 units 3. 15 units 4. 16 units</p>
<p>Consider three processes, all arriving at time zero, with total execution time of 10, 20 and 30 units, respectively. Each process spends the first 20% of execution time doing I/O, the next 70% of time doing computation, and the last 10% of time doing I/O again. The operating system uses a shortest remaining compute time first scheduling algorithm and schedules a new process either when the running process gets blocked on I/O or when the running process finishes its compute burst. Assume that all I/O operations can be overlapped as much as possible. For what percentage of time does the CPU remain idle?</p>	<p>1. 0% 2. 89.4% <b>3.10.6%</b> 4. 30.0%</p>
<p>Constraints on the services or functions offered by the system such as timing constraints, constraints</p>	<p>1. Functional requirements</p>

on the development process, standards, etc refers to _____	2. Non functional requirement 3. Benchmarks 4. ISO standards
Control of shift register labeled as SH/LD =0 will	1. <b>shift</b> 2. store 3. load 4. add
Control of shift register labeled as SH/LD =1 will	1. <b>shift</b> 2. store 3. <b>load</b> 4. add
Control unit in serial computer generates a	1. reset signal 2. <b>word-time signal</b> 3. word signal 4. clear signal
Convert (0.6875) <sub>10</sub> to binary	1. <b>0.1011</b> 2. 0.1011 3. 0.0101 4. 0.0111
Convert binary 11111110010 to hexadecimal.	1. EE216 2. <b>FF216</b> 3. 2FE16 4. FD216

<p>Convert the fractional binary number 0000.1010 to decimal.</p>	<ol style="list-style-type: none"> <li>1. 0.625</li> <li>2. 0.50</li> <li>3. 0.55</li> <li>4. 0.10</li> </ol>
<p>Convert the fractional binary number 0001.0010 to decimal.</p>	<ol style="list-style-type: none"> <li>1. 1.40</li> <li>2. 1.125</li> <li>3. 1.20</li> <li>4. 1.80</li> </ol>
<p>Convert the fractional decimal number 6.75 to binary.</p>	<ol style="list-style-type: none"> <li>1. 0111.1100</li> <li>2. 0110.1010</li> <li>3. 0110.1100</li> <li>4. 0110.0110</li> </ol>
<p>Converting (-2047)<sub>10</sub> into a 32-bit 2</p>	<ol style="list-style-type: none"> <li>1. 1111 1111 1111 1111 1111 1000 0000 000</li> <li>2. 1111 1111 1111 1111 1111 1000 0000 1111</li> <li>3. 1111 1111 1111 1111 1111 1000 1111 000</li> <li>4. 0000 1111 1111 1111 1111 1000 0000 000</li> </ol>
<p>COTS stands for_____</p>	<ol style="list-style-type: none"> <li>1. Commercial Off-The-Shelf systems</li> <li>2. Commercial Off-The-Shelf states</li> <li>3. Commercial Off-The-System state</li> <li>4. Commercial Off The System</li> </ol>

Counters that transfer invalid states to valid states are called	1. valid counters 2. self starting counters 3. <b>invalid counters</b> 4. undefined counters
CPU fetches the instruction from memory according to the value of:	1. <b>program counter</b> 2. status register 3. instruction register 4. program status word
DataInputStream is an example of	1. Output stream 2. I/O stream 3. <b>Filtered stream</b> 4. File stream
Decimal digit in BCD can be represented by	1. 1 input line 2. 2 input lines 3. 3 input lines 4. <b>4 input lines</b>
Decimal digits are displayed on	1. input 2. output 3. <b>7 segment</b> 4. flip flop
Decimal number 4 in excess-3 coding is	1. 110 2. <b>111</b> 3. 1100 4. 1110

Decimal number 5 in 2421 coding	1. <b>1011</b> 2. 1001 3. 1010 4. 1100
Definite time in a flipflop is called	1. clear time 2. pulse time 3. <b>hold time</b> 4. reset time
Delay elements provide	1. large memory 2. outputs 3. clock pulses 4. <b>short term memory</b>
Demorgan law over addition is	1. $(x \cdot y)' = x' \cdot y'$ 2. $(x + y)' = x + y'$ 3. <b><math>(x + y)' = x' \cdot y'</math></b> 4. $(x \cdot y)' = x'$
Determine the output frequency for a frequency division circuit that contains 12 flip-flops with an input clock frequency of 20.48 MHz.	1. 10.24 kHz 2. <b>5 kHz</b> 3. 30.24 kHz 4. 15 kHz
Determine which of the following is valid character constant ?	1. <b>'//'</b> 2. <b>'\0'</b> 3. 'xyz' 4. '\052'

Different _____ may have conflicting requirements	1. programmers 2. designers 3. <b>stakeholders</b> 4. analysts
Digital no system is said to be of base or radix	1. 8 2. <b>10</b> 3. 2 4. 16
Dijkstra algorithm is also called the ..... shortest path problem.	1. multiple source 2. <b>single source</b> 3. single destination 4. multiple destination
Dijkstra's banking algorithm for resource allocation is used for	1. Deadlock recovery 2. <b>Deadlock avoidance</b> 3. Deadlock detection  4. Deadlock prevention
Down counter decrement value by	1. <b>1</b> 2. 2 3. 3 4. 4
During a class inheritance in CPP, if the visibility mode or mode of derivation is not provided, then by default visibility mode is_____.	1. onlineexam.t 2.protected 3. <b>private</b> 4.friend

During the execution of a program which gets initialized first?	1. IR 2. MAR 3. <b>PC</b> 4. MDR
During transfer of data between the processor and memory we use _____	1. Cache  2. TLB  3. Buffers  4. <b>Registers</b>
$e^*x = x^*e = x$ is the	1. <b>commutative property</b> 2. inverse property 3. associative property 4. identity element
Each gate has a delay of	1. <b>1</b> 2. 2 3. 3 4. 4
Each logic gate gives delay of	1. <b>1 to 5 ns</b> 2. 2 to 10 ns 3. 3 to 10 ns 4. 3 to 5 ns
Effect of change of input to more than one state is called	1. undefined condition 2. <b>race condition</b> 3.

	reset condition 4. ideal condition
Effective access time is directly proportional to:	1. hit ratio 2. memory access time 3. <b>page-fault rate</b> 4. none of the mentioned
Effective bandwidth is bandwidth that network needs to allocate for the	1. <b>Flow of Traffic</b> 2. Flow of Data 3. Flow of Protocol 4. Flow of Amount
Electric digital systems use signals that have circuit elements having	1. One stable state 2. <b>Two stable states</b> 3. Three stable states 4. Four stable states
Events are translated to ___ requests, which are sent either to the model or to the view	1. client 2. source 3. <b>service</b> 4. multiple
Exclusive-OR is an	1. prime function 2. undefined function 3. even function 4. <b>odd function</b>
External fragmentation will not occur when :	1. worst fit is used 2. first fit is used 3.

	<p>no matter which algorithm is used, it will always occur</p> <p>4. best fit is used</p>
FAST stands for _____	<p>1. Functional Application Specification Technique</p> <p>2. Fast Application Specification Technique</p> <p>3. <b>Facilitated Application Specification Technique</b></p> <p>4. Facility Architecture Software Test</p>
FAT stands for	<p>1. First Application Table</p> <p>2. File Application Table</p> <p>3. First Allocation Table</p> <p>4. <b>File Allocation Table</b></p>
Feedback among logic gates make asynchronous system	<p>1. stable</p> <p>2. <b>unstable</b></p> <p>3. complex</p> <p>4. combinational</p>
<p>file system with 300 GByte disk uses a file descriptor with 8 direct block addresses, 1 indirect block address and 1 doubly indirect block address. The size of each disk block is 128 Bytes and the size of each disk block address is 8 Bytes.</p> <p>The maximum possible file size in this file system is</p>	<p>1. 3 KBytes</p> <p>2. <b>35 KBytes</b></p> <p>3. 280 KBytes</p> <p>4. dependent on the size of the disk</p>
<p>Fill in the blank to compile the code successfully?</p> <p>abstract class A</p> <p>{</p>	<p>1. onlineexam.abstract void showA() {}</p> <p>2. <b>onlineexam.void showA()</b></p> <p>{}</p>

```

int a = 100;

public abstract void showA(); }

public class B extends A
{
    ----- // Fill the blank
}

```

```

public static void main(String []args)
{
    A objA = new B();
    objA.showA();
}
}

```

- 3.
- void showA() { }
- 4.
- onlineexam.B showA() {}

First Come First Serve (FCFS) Scheduling is.....

1. used to reduce waiting time
2. **easy to understand and implement**
3. impossible to implement
4. None of the Above

First Come First Serve(FCFS) is

1. Preemptive scheduling
2. **Nonpreemptive scheduling**
3. deadline scheduling
4. None of the above

Flipflops are

1. level triggered
2. **edge triggered**
3. clock triggered
4. pulse triggered

Floating point representation is used to store	1. Boolean values 2. whole numbers 3. <b>real integers</b> 4. integers															
For operation of multiplication hardware needs minimum ALU of	1. 16 2. <b>32</b> 3. 64 4. 128															
For the processes listed in the following table, which of the following scheduling schemes will give the lowest average turnaround time?  <table> <thead> <tr> <th>Process</th> <th>Arrival Time</th> <th>Processing Time</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0</td> <td>3</td> </tr> <tr> <td>B</td> <td>1</td> <td>6</td> </tr> <tr> <td>C</td> <td>4</td> <td>4</td> </tr> <tr> <td>D</td> <td>6</td> <td>2</td> </tr> </tbody> </table>	Process	Arrival Time	Processing Time	A	0	3	B	1	6	C	4	4	D	6	2	1. First Come First Serve 2. Non-preemptive Shortest Job First 3. <b>Shortest Remaining Time</b> 4. Round Robin with Quantum value two
Process	Arrival Time	Processing Time														
A	0	3														
B	1	6														
C	4	4														
D	6	2														
Fork is	1. the dispatching of a task 2. <b>the creation of a new process</b> 3. the creation of a new job 4. increasing the priority of a task															
Four different attributes to control traffic have been devised in	1. IP Relay 2. Data Relay 3. Source Relay 4. <b>Frame Relay</b>															
Four gates in a package is called	1. biruple 2.															

	octuple 3. dualtuple 4. <b>quadruple</b>
Fragmentation of the file system	1. can always be prevented 2. occurs only if the file system is used improperly 3. is a characteristic of all file systems 4. <b>can be temporarily removed by compaction</b>
Frames from one LAN can be transmitted to another LAN via the device	1. Router 2. Repeater 3. Modem 4. <b>Bridge</b>
From among the following given scenarios determine the right one to justify interrupt mode of data-transfer	1. Bulk transfer of several kilo-byte 2. Moderately large data transfer but more than 1 KB 3. <b>keyboard inputs</b> 4. Short events like mouse action
FTP server listens to connections on port	1. 19 and 20 2. 20 and <b>21</b> 3. <b>21</b> and 22 4. 20 and 22
Full adder consists of	1. 1 half adder 2. <b>2 half adders</b> 3.

	3 half adders 4. 4 half adders
Garbage Collection in java is done by who?	1. Java Compiler 2. Object class 3. System class 4. <b>JVM</b>
Generally Dynamic RAM is used as main memory in a computer system as it	1. Consumes less power <b>2. has higher speed</b> 3. has lower cell density 4.needs refreshing circuitry
Give the decimal value of binary 10000110.	1. <b>13410</b> 2. 14410 3. 11010 4. 12610
Give the decimal value of binary 10010.	1. 610 2. 910 3. <b>1810</b> 4. 2010
Given the following code snippet;  int salaries[]; int index = 0; salaries = new int[4]; while (index < 4) { salaries[index] = 10000; index++; } What is the value of salaries [3]?	1. <b>10000</b> 2. 40000 3. 4000 4. 15000

Given the following code, which line will generate an error ?

```
class Test
{
    static int x = 100;          // line 3
    int y = 200;                // line 4
    public static void main(String []args)
    {
        final int z;            // line 7
        z = x + y;              // line 8
        System.out.println(z);
    }
}
```

- 1.
- line 3
- 2.
- line 4
- 3.
- line 7
- 4.

**line 8**

Given the following declarations, which assignment is legal?

```
// Class declarations :
interface A {}
class B {}
class C extends B implements A {}
class D implements A {}
```

- 1.
- c = d;
- 2.
- d = c;
- 3.

**A a = d;**

- 4.
- d = (D)c;

// Declaration statements :

```
B b = new B();
C c = new C();
D d = new D();
```

Given the statement , maruti.engine.bolts=25 . Which of the following is true?

- 1.
- Structure bolts is nested within structure engine
- 2.

**Structure engine is nested within structure maruti**

- 3.

	Structure maruti is nested within structure engine 4. Structure maruti nested within structure bolts								
Graphs are examples of which type of data structure	1. Linear and Hierarchical 2. <b>Non-Linear and Hierarchical</b> 3. Linear and Non-Hierarchical 4. Non-Linear and Non-Hierarchical								
Gray code representation of 14 is	1. 1010 2. 1100 3. <b>1001</b> 4. 1110								
Group 1 contains some CPU scheduling algorithms and Group 2 contains some applications. Match entries in Group 1 to entries in Group 2.  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Group I</td> <td style="width: 50%;">Group II</td> </tr> <tr> <td>(P) Gang Scheduling</td> <td>(1) Guaranteed Scheduling</td> </tr> <tr> <td>(Q) Rate Monotonic Scheduling</td> <td>(2) Real-time Scheduling</td> </tr> <tr> <td>(R) Fair Share Scheduling</td> <td>(3) Thread Scheduling</td> </tr> </table>	Group I	Group II	(P) Gang Scheduling	(1) Guaranteed Scheduling	(Q) Rate Monotonic Scheduling	(2) Real-time Scheduling	(R) Fair Share Scheduling	(3) Thread Scheduling	1. <b>P – 3 Q – 2 R – 1</b> 2. P – 1 Q – 2 R – 3 3. P – 2 Q – 3 R – 1 4. P – 1 Q – 3 R – 2
Group I	Group II								
(P) Gang Scheduling	(1) Guaranteed Scheduling								
(Q) Rate Monotonic Scheduling	(2) Real-time Scheduling								
(R) Fair Share Scheduling	(3) Thread Scheduling								
How can such a restriction be enforced ?  A method within a class is only accessible by classes that are defined within the same package as the class of the method.	1. Declare the method with the keyword <code>onlineexam.br&gt;</code> 2. Declare the method with keyword <code>protected</code> 3. Declare the method with keyword <code>private</code> 4. <b>Without any accessibility specifiers.</b>								

How do we define a destructor?	1. X~() {} 2. X() {}~ 3. X() ~{} 4. <b>~X() {}</b>
How is a J-K flip-flop made to toggle?	1. J = 0, K = 0 2. J = 1, K = 0 3. J = 0, K = 1 4. <b>J = 1, K = 1</b>
How is the capacity of running several program simultaneously known ?	1. Multiprocessing 2. <b>Multiprogramming</b> 3. Multisystem 4. Multi resources
How many Scenarios are there in elicitation activities?	1. One 2. Two 3. Three 4. <b>Four</b>
How many 32K x 1 RAM chips are needed to provide a memory capacity of 256K-bytes?	1. 8 2. 32 3. <b>64</b> 4. 128
How many numeric data types are supported in Java?	1. 2 2. 4 3. 8 4. <b>6</b>

	6
How many subnets are created from a Class C addressing space that is using a /29 subnet mask?	1. 16 2. 128 3. <b>32</b> 4. 64
HUB is a _____ Device and Switch is a _____ Device.	1. Unicast, Multicast 2. Multicast, Unicast 3. <b>Broadcast, Unicast</b> 4. None of Above
Human readable base representation of numbers is	1. Binary 2. <b>Decimal</b> 3. Hex 4. Hexdecimal
IC no of NOT gate	1. 7402 2. <b>7404</b> 3. 7401 4. 7406
IC of 7 segment display contains	1. 4 leds 2. 5 leds 3. 6 leds 4. <b>7 leds</b>
ICMP is primarily used for	1. forwarding 2. addressing 3. <b>error and diagnostic functions</b>

	4. routing
Identify the disadvantage of Spiral Model.	1. <b>Doesn't work well for smaller projects</b> 2. High amount of risk analysis 3. Strong approval and documentation control 4. Additional Functionality can be added at a later date
Identify the correct sequence in which the following packets are transmitted on the network by a host when a browser requests a webpage from a remote server, assuming that the host has just been restarted.	1. HTTP GET request, DNS query, TCP SYN 2. DNS query, HTTP GET request, TCP SYN 3. <b>DNS query, TCP SYN, HTTP GET request</b> 4. TCP SYN, DNS query, HTTP GET request
If a block can be placed at every location in cache, this cache is said to be	1. Indirectly mapped 2. Directly mapped 3. <b>Fully associative</b> 4. Partially associative
If a host broadcasts a frame that includes a source and destination hardware address, and its purpose is to assign IP addresses to itself, which protocol at the Network layer does the host use?	1. <b>RARP</b> 2. ARPA 3. ICMP 4. TCP
If an Ethernet port on a router were assigned an IP address of 172.16.112.1/25, what would be the valid subnet address of this host?	1. 172.16.96.0 2. 172.16.0.0 3. <b>172.16.112.0</b>

	4. 172.16.255.0
If an odd parity is adopted, parity bit is chosen in such that total no of 1's is	1. <b>odd</b> 2. even 3. positive 4. negative
If every requirement can be checked by a cost-effective process, then the SRS is	1. <b>verifiable</b> 2. traceable 3. modifiable 4. complete
If relocation is static and is done at assembly or load time, compaction _____.	1. <b>cannot be done</b> 2. must not be done 3. must be done 4. can be done
If result = 2 + 3 * 5, what is the value and type of 'result' variable?	1. 17, byte 2. 25, byte 3. <b>17, int</b> 4. 25, int
If the data unit is 111111 and the divisor is 1010. In CRC method, what is the dividend at the transmission before division?	1. 1111110000 2. 1111111010 3. <b>111111000</b> 4. 111111
If the derived class is struct, then default visibility mode is_____	1. <b>onlineexam.t public</b> 2.

	protected 3. private 4. struct can't inherit class
If the disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98, 37, 14, 124, 65, 67.	1. 331 2. <b>321</b> 3. 355 4. 361
If the quantum time of round robin algorithm is very large, then it is equivalent to:	1. <b>First in first out</b> 2. Lottery scheduling 3. Shortest Job Next 4. None of the above
If you were to create client/server applications, which model would you go for?	1. WINWIN Spiral Model  2. Spiral Model  3. <b>Concurrent Model</b> 4. Incremental Model
import keyword is used to?	1. both built-in packages and user-defined packages into your java source file. 2. <b>import only built-in packages into your java source file</b> 3. import only user-defined packages into your java source file 4. None of the above

In a men head count, a _____ head end under the armpit usually includes the shoulder and the neck.	<ol style="list-style-type: none"> <li>1.</li> <li>1st</li> <li>2.</li> <li><b>2nd</b></li> <li>3.</li> <li>3rd</li> <li>4.</li> <li>4th</li> </ol>
In 14 pin gate pin no 14 is	<ol style="list-style-type: none"> <li>1.</li> <li><b>Vcc</b></li> <li>2.</li> <li>Vdd</li> <li>3.</li> <li>ground</li> <li>4.</li> <li>AC</li> </ol>
In 14 pin gate pin no 7 is	<ol style="list-style-type: none"> <li>1.</li> <li>Vcc</li> <li>2.</li> <li>Vdd</li> <li>3.</li> <li><b>ground</b></li> <li>4.</li> <li>AC</li> </ol>
In ___ mode, the authentication header is inserted immediately after the IP header.	<ol style="list-style-type: none"> <li>1.</li> <li><b>Tunnel</b></li> <li>2.</li> <li>Transport</li> <li>3.</li> <li>Authentication</li> <li>4.</li> <li>Both A and B</li> </ol>
In ___, the prototype is developed from an initial specification, delivered for experiment then discarded	<ol style="list-style-type: none"> <li>1.</li> <li>evolutionary prototyping</li> <li>2.</li> <li><b>throw away prototyping</b></li> <li>3.</li> <li>design prototyping</li> <li>4.</li> <li>user prototyping</li> </ol>
In _____ start with high-level system and integrate from the top-down replacing individual components by stubs where appropriate	<ol style="list-style-type: none"> <li>1.</li> <li><b>top-down testing</b></li> <li>2.</li> <li>bottom up testing</li> <li>3.</li> <li>sandwich testing</li> <li>4.</li> <li>risk oriented testing</li> </ol>

In a _____ start with the least well-understood parts	1. UI prototype 2. design prototype 3. <b>throw-away prototype</b> 4. evolutionary prototype
In a MAX heap tree .....	1. value in a node is greater than every value in left subtree and smaller than right subtree 2. <b>value in a node is greater than the values of its child nodes</b> 3. value in a node is smaller than every value in left subtree and smaller than right subtree 4. value in a node is lesser than the values of its child nodes
In a packet switching network, if the message size is 48 bytes and each packet contains a header of 3 bytes. If 24 packets are required to transmit the message, the packet size is .....  Total number of bytes in message = $48 + (3 \times 24)$ Total number of bytes in message = $48 + 72$ Total number of bytes in message = 120	1. 2 bytes 2. 1 byte 3. 4 bytes 4. <b>4.5 bytes</b>
The packet size can be calculated by dividing the total number of bytes in the message by the number of packets required:  Packet size = Total number of bytes / Number of packets Packet size = $120 / 24$ Packet size = 5	1. initialise program counter 2. Clear the accumulator 3. Reset the microprocessor 4. <b>Clear the instruction register</b>
In a program using subroutine call instruction, it is necessary	1. No path 2. Atleast one path 3. Atmost one path 4. <b>Exactly one path</b>
In a tree, between any two nodes, there is _____ -	

	4. Exactly one path
In adder subtractor circuit when addition exceeds from 15 output carry becomes	1. <b>1</b> 2. 0 3. x 4. undefined
In an absolute loading scheme, which loader function(s) is (are) accomplished by programmer	1. Allocation 2. Linking 3. Allocation and Linking 4. <b>Reallocation</b>
In associative mapping during LRU, the counter of the new block is set to '0' and all the others are incremented by one, when _____ occurs.	1. <b>Miss</b> 2. Hit 3. Delay 4. Delayed Hit
In asynchronous circuits changes occur with change	1. <b>inputs</b> 2. outputs 3. clock pulses 4. time
In BCD no. 1010 has	1. meaning 2. <b>no meaning</b> 3. value 4. Vcc
In Congestion Control, a bit can be set in a packet moving in direction opposite to congestion in	1. <b>Backward Signaling</b> 2. Implicit Signaling 3. Source Signaling

	4. Data Signaling
In Congestion Control, DVL stands for	1. Delay Versus Line 2. <b>Delay Versus Lose</b> 3. Delay Versus Load 4. Delay Versus Louden
In Congestion Control, packet is put at end of input queue while waiting to be	1. <b>Checked</b> 2. Entered 3. Reached 4. Controlled
In Congestion, CBR stands for	1. Control Bit Rate 2. <b>Constant Bit Rate</b> 3. Constant Byte Rate 4. Control Byte Rate
In contiguous memory allocation :	1. <b>each process is contained in a single contiguous section of memory</b> 2. all processes are contained in a single contiguous section of memory 3. the memory space is contiguous 4. the memory space is not contiguous
In DFDs, user interactions with the system is denoted by:	1. <b>Circle</b> 2. Arrow 3. Rectangle 4. Triangle

<p>In division, two operands (dividend and divisor) and answer (quotient) of divide are accompanied by a second answer called the</p>	<ol style="list-style-type: none"> <li>1. Reminder</li> <li>2. Multiplier</li> <li>3. Divisor</li> <li>4. Trap</li> </ol>
<p>In flipflop if set input is returned to 0, output</p>	<ol style="list-style-type: none"> <li>1. changes</li> <li>2. inverts</li> <li>3. remain same</li> <li>4. complements</li> </ol>
<p>In Integrated Services, when a source makes a reservation, it needs to define a</p>	<ol style="list-style-type: none"> <li>1. Flow STCP</li> <li>2. Flow Control</li> <li>3. Flow Specification</li> <li>4. Flow Solution</li> </ol>
<p>In link state routing algorithm after the construction of link state packets, new routes are computed using:</p>	<ol style="list-style-type: none"> <li>1. DES algorithm</li> <li>2. Dijkstra's algorithm</li> <li>3. RSA algorithm</li> <li>4. Packets</li> </ol>
<p>In mealy model outputs are functions of</p>	<ol style="list-style-type: none"> <li>1. present state</li> <li>2. input state</li> <li>3. next state</li> <li>4. present and input state</li> </ol>
<p>In moore model outputs are functions of</p>	<ol style="list-style-type: none"> <li>1. present state</li> <li>2.</li> </ol>

	input state 3. next state 4. Present state and inputstate
In most of logic gates 1 means	1. 0 V 2. 1 V 3. <span style="background-color: yellow;">5 V</span> 4. 10 V
In Multipath inheritance, in order to remove duplicate set of records in child class then	1. Write Virtual function in parent classes 2. Write virtual functions in base class 3. <span style="background-color: yellow;">Make base class as virtual base class</span> 4. All of these
In Operating Systems, a single thread is termed as	1. <span style="background-color: yellow;">Light Weight Process (LWP)</span> 2. Heavy Weight Process (HWP) 3. Both (1) & (2) 4. None of the above
In OSI network architecture, the dialogue control and token management are responsibilities of ?	1. network layer 2. <span style="background-color: yellow;">session layer</span> 3. transport layer 4. data link layer
In positive logic, _____.	1. <span style="background-color: yellow;">a HIGH = 1, a LOW = 0</span> 2. a LOW = 1, a HIGH = 0 3. only HIGHs are present

	4. only LOWs are present
In Quality of Service, Jitter is variation in delay for packets belonging to the	1. Data Flow 2. <b>Same Flow</b> 3. Protocol Flow 4. IP Flow
In round robin CPU scheduling as time quantum is increased the average turn around time	1. increases 2. decreases 3. remains constant 4. <b>varies irregularly</b>
In signed-magnitude binary division, if the dividend is $(11100)_2$ and divisor is $(10011)_2$ then the result is	1. $(00100)_2$ 2. <b><math>(10100)_2</math></b> 3. $(11001)_2$ 4. $(01100)_2$
In stack organization the insertion operation is known as ?	1. Pop 2. <b>Push</b> 3. Down 4. Upper
In T flipflop when state of T flipflop has to be complemented T must be	1. <b>0</b> 2. 1 3. t 4. $t+1$
In Unix, "cat" command is used to display .....	1. file names 2. folder names 3.

	<p><b>file contents</b></p> <p>4. None of the above</p>
In Unix, "file" command is used to determine .....	<p>1. file name 2. <b>file type</b> 3. file content 4. None of the above</p>
In virtual memory systems, Dynamic address translation	<p>1. <b>is the hardware necessary to implement paging</b> 2. stores pages at a specific location on disk 3. is part of the operating system paging algorithm 4. is useless when swapping is used</p>
In virtual memory systems, Dynamic address translation	<p>1. <b>is the hardware necessary to implemented paging</b> 2. is useless when swapping is used. 3. stores pages at a specifies location on disk 4. is part of the operating system paging algorithm</p>
Increasing the RAM of a computer typically improves performance because:	<p>1.Larger RAMs are faster 2.Virtual memory increases <b>3.Fewer page faults occur</b> 4.Fewer segmentation faults occur</p>
Individual components are tested is termed as_____	<p>1. Regression testing 2. System testing 3.</p>

	<p><b>Module testing</b></p> <p>4. Sub-system testing</p>
Information when is written in cache, both to block in cache and block present in lower-level memory, refers to	<p>1. Miss rate 2. Write-back 3. <b>Write-through</b> 4. Dirty bit</p>
Inheritance is the property of object-oriented systems that allows objects to be built from other	<p>1. attributes 2. objects 3. method 4. <b>class</b></p>
Instability condition can be determined from	<p>1. table 2. map 3. graph 4. <b>logic diagram</b></p>
Instruction that are used for reading from memory by an IOP called ?	<p>1. <b>Commands</b> 2. Pulses 3. Blocks 4. Interrupt</p>
int a[10] will occupy _____ number of bits in the memory	<p>1. 2 2. 10 3. 12 4. <b>20</b></p>
Internal state and input values altogether are called	<p>1. full state 2. <b>total state</b> 3.</p>

	initial state 4. output state
Interoperability requirements, legislative requirements are examples of _____	1. organizational requirement 2. Product requirements 3. <b>External requirements</b> 4. Process requirements
Interprocess communication	1. <b>allows processes to synchronize activity</b> 2. is required for all processes 3. is usually done via disk drives 4. is never necessary
Interrupt latency should be..... for Real Time Operating Systems (RTOS)?	1. <b>minimal</b> 2. maximum 3. zero 4. None of the above
Interrupts form an important part of ____ systems	1. Batch processing 2. Multitasking 3. <b>Real-time processing</b> 4. Multi-user
ISO recommended international testing condition is:	1. <b>200C &amp; 65% RH</b> 2.

	300C & 65% RH 3. 200C & 75% RH 4. 300C & 75% RH
J=K=0 will make flip-flops	1. changed 2. reversed 3. <b>unchanged</b> 4. stopped
Java source codes are compiled and converted to	1. Objectcodes 2. Assemblycodes 3. Binarycodes 4. <b>Bytecodes</b>
Kruskal algorithm follows _____ approach.	1. Divide and Conquer 2. Dynamic programming 3. <b>Greedy</b> 4. Backtracking
Lamp handball game uses application of	1. unidirectional shift register 2. <b>bidirectional shift register</b> 3. serial shift register 4. parallel shift register
Latches are	1. <b>level triggered</b> 2. edge triggered 3. clock triggered 4. pulse triggered

Late delivery of hardware or support software is an example for _____	<ol style="list-style-type: none"> <li>1. product risk</li> <li>2. people risk</li> <li>3. <b>technology risk</b></li> <li>4. organizational risk</li> </ol>
Layer-2 Switch is also called	<ol style="list-style-type: none"> <li>1. Multiport Hub</li> <li>2. Multiport Switch</li> <li>3. <b>Multiport Bridge</b></li> <li>4. Multiport NIC</li> </ol>
LED stands for	<ol style="list-style-type: none"> <li>1. <b>light emitting diode</b></li> <li>2. light emitting device</li> <li>3. light electronic diode</li> <li>4. light electronic device</li> </ol>
Left most position in lamp handball game is the	<ol style="list-style-type: none"> <li>1. <b>wall</b></li> <li>2. fence</li> <li>3. ball</li> <li>4. indicator</li> </ol>
Let the page fault service time be 10ms in a computer with average memory access time being 20ns. If one page fault is generated for every $10^6$ memory accesses, what is the effective access time for the memory?	<p>1.21ns  <b>2.30ns</b>              3.23ns              4.35ns</p>
Let the time taken to switch between user the kernel modes of execution be $t_1$ while the time taken to switch between two processes be $t_2$ . Which of the following is TRUE?	<ol style="list-style-type: none"> <li>1. <math>t_1 &gt; t_2</math></li> <li>2. <math>t_1 = t_2</math></li> <li>3. <b><math>t_1 &lt; t_2</math></b></li> <li>4. nothing can be said about the relation between <math>t_1</math> and <math>t_2</math></li> </ol>

Linear arrays are also called	1. Straight line array 2. One-dimensional array 3. Vertical array 4. Horizontal array
Links between dependent requirements refers to _____	1. Design traceability 2. Requirement traceability 3. Source traceability 4. Feature traceability
Links from the requirements to the design refers to _____ traceability	1. Design 2. Requirements 3. Source 4. Destination
Logic probe is used for	1. testing 2. debugging 3. monitoring 4. controlling
Long Term Scheduler is a.....	1. CPU scheduler 2. process swapping scheduler 3. job scheduler 4. None of the above
M flip-flops produces	1. $2^m - 1$ states 2. $2^m$ states 3. $2^{m+1}$ states 4. $2^m$ states

Main function of shared memory is:	1.to use primary memory efficiently 2.to do intra process communication 3. <b>to do inter process communication</b> 4. to use secondary memory efficiently						
Making of transition table consists of	1. 2 steps 2. 4 steps 3. 5 steps 4. <b>6 steps</b>						
Mandating a particular IDE, programming language or development method are examples of _____	1. product requirements 2. <b>process requirements</b> 3. organisational requirement 4. benchmarks						
Match the following:  <table style="margin-left: 100px;"> <tr> <td>A. Repeaters</td> <td>1. Data Link Layer</td> </tr> <tr> <td>B. Bridges</td> <td>2. Network Layer</td> </tr> <tr> <td>C. Routers</td> <td>3. Physical Layer</td> </tr> </table>	A. Repeaters	1. Data Link Layer	B. Bridges	2. Network Layer	C. Routers	3. Physical Layer	1. <b>A---&gt;3, B---&gt;1, C---&gt;2</b> 2.A --->2, B--->3, C--->1  3.A--->3, B----->2, C--->1  4.A---->1, B--->2, C--->3
A. Repeaters	1. Data Link Layer						
B. Bridges	2. Network Layer						
C. Routers	3. Physical Layer						
Match the following:  <table style="margin-left: 100px;"> <tr> <td>1. Segments</td> <td>A. Associated with Data Link Layer</td> </tr> <tr> <td>2. Packets</td> <td>B. Associated with Network Layer</td> </tr> <tr> <td>3. Frames</td> <td>C. Associated with Transport Layer</td> </tr> </table>	1. Segments	A. Associated with Data Link Layer	2. Packets	B. Associated with Network Layer	3. Frames	C. Associated with Transport Layer	1. 1--->A; 2---->B; 3 --->C 2. 1--->A; 2---->C; 3 --->B 3. 1--->C; 2---->A; 3 --->B 4. <b>1---&gt;C; 2----&gt;B; 3 ---&gt;A</b>
1. Segments	A. Associated with Data Link Layer						
2. Packets	B. Associated with Network Layer						
3. Frames	C. Associated with Transport Layer						
MAX heap can be used to sort the data in an _____	1. <b>Ascending order</b> 2.						

	Descending order 3. Both ascending or descending order 4. Random order
Maxterms are also called	1. <b>standard sum</b> 2. standard product 3. standard division 4. standard subtraction
Medium term scheduler is based on	1. Scroll in, Scroll out 2. Fetch in, Fetch out 3. <b>Swap in, Swap out</b> 4. None of the above
Memory management is :	1. not used in modern operating system 2. replaced with virtual memory on current systems 3. not used on multiprogramming systems 4. <b>critical for even the simplest operating systems</b>
Memory that is called a read write memory is	1. ROM 2. EPROM 3. <b>RAM</b> 4. Registers
Memory unit accessed by content is called	1.

	Read only memory 2. Programmable Memory 3. Virtual Memory 4. <b>Associative Memory</b>
Message queuing is managed by?	1. Shell 2. <b>Kernel</b> 3.  Fork 4. None of the above
Minimum number of queues required for priority queue implementation?	1. 5 2. 4 3. 3 4. <b>2</b>
Misunderstandings between software users and developers are exposed by _____	1. white box testing 2. testing 3. coding 4. <b>prototyping</b>
Momentary change in state of flipflop is called	1. feedback path 2. tri state 3. signals 4. <b>trigger</b>
Most preceded operator is	1. parenthesis 2. AND 3. OR 4. <b>NOT</b>

Most significant bit of arithmetic addition is called	1. overflow 2. <b>carry</b> 3. output 4. zero bit
Mostly gates works on	1. <b>5 V</b> 2. 4 V 3. 3 V 4. 2 V
Multiple inheritance is not supported in Java because?	1. To remove ambiguity and provide more maintainable and clear design. 2. Java is a Object oriented language. 3. Multiple inheritance is not an important feature. 4. All of above
Multiple variable xor is defined as	1. inverted or function 2. prime function 3. even function 4. <b>odd function</b>
Multiprogramming systems:	1. Are easier to develop than single programming systems 2. Execute each job faster 3. Are used only one large mainframe computers. 4. <b>Execute more jobs in the same time period</b>

MVC stands for _____	1. Memento View Controller 2. <b>Model View Controller</b> 3. Model View Component 4. Movie View Controller
Naming states is done in	1. <b>transition table</b> 2. stable state 3. <b>flow table</b> 4. excitation table
NAND latch works when both inputs are	1. <b>1</b> 2. 0 3. inverted 4. dont cares
Negative transition in flip-flops are referred to as	1. clock 2. <b>negative edge</b> 3. positive edge 4. positive edge and negative edge
Next state of $B(t)$ will be	1. $B(t-1)$ 2. <b><math>B(t+1)</math></b> 3. $B(t-2)$ 4. $B(t+2)$
No of NAND gate is	1. 7000 2. 7200 3. <b>7400</b> 4.

	7800
Nor function is dual of	1. and function 2. or function 3. xor function 4. <b>nand function</b>
Not operation is obtained by using one input	1. AND gate 2. OR gate 3. <b>NAND gate</b> 4. XOR gate
Nouns in the textual description are considered to be _____.	1. Methods 2. <b>Class</b> 3. File 4. Node
Objects are grouped into _____	1. <b>Classes</b> 2. Methods 3. Procedures 4. Records
Old, valuable systems must be maintained and updated are termed as_____	1. Normalized system 2. Concurrent systems 3. Distributed systems 4. <b>Legacy systems</b>
One hex digit is sometimes referred to as a(n):	1. byte 2. <b>nibble</b> 3. grouping 4.

	instruction
One that is not postulate of Boolean algebra	1. commutative 2. <b>duality</b> 3. associative 4. identity element
One that shows distributive law of addition over multiplication	1. $x+(y.z)=(x.y)+(x.z)$ 2. $x+(y.z)=(x+y).(x+z)$ 3. $x+(y.z)=(x.y).(x+z)$ 4. <b><math>x.(y+z)=(x+y).(x+z)</math></b>
One userlevel thread is mapped to many kernel level thread is known as....	1. <b>One to Many model</b> 2. One to One model 3. Many to One model 4. None of the above
Operating System maintains the page table for:	1. <b>each process</b> 2. each thread 3. each instruction 4. each address
OR gates are converted to NAND gates using	1. invert OR 2. AND invert 3. NAND invert 4. EX-OR
Outputs of SR latch are	1. x and y 2. a and b 3. s and r 4. <b>q and q'</b>

Packets wait in a buffer (queue) until node is ready to process them in	<ol style="list-style-type: none"> <li>1. Out-of-Order Ones</li> <li>2. <b>First-in First out</b></li> <li>3. Out-of-Reach Ones</li> <li>4. First-in-First Ones</li> </ol>
Page fault occurs when	<ol style="list-style-type: none"> <li>1. When a requested page is in memory</li> <li>2. <b>When a requested page is not in memory</b></li> <li>3. When a page is corrupted</li> <li>4. When an exception is thrown</li> </ol>
Page stealing	<ol style="list-style-type: none"> <li>1. <b>is taking page frames from other working sets</b> is a sign of an efficient system</li> <li>2. <b>should be the tuning goal</b></li> <li>3. <b>is taking page frames from other working sets</b></li> <li>4. Dis taking larger disk spaces for pages paged out</li> </ol>
Page table level that says if page has been modified, is known as	<ol style="list-style-type: none"> <li>1. Presence</li> <li>2. <b>Dirty</b></li> <li>3. Read/Write</li> <li>4. Page size</li> </ol>
Parallel load transfer is done in	<ol style="list-style-type: none"> <li>1. <b>1 cycle</b></li> <li>2. 2 cycle</li> <li>3. 3 cycle</li> <li>4. 4 cycle</li> </ol>

Parity checker is used for	1. detection 2. testing 3. debugging 4. <b>error</b>
PC Program Counter is also called .....	1. <b>instruction pointer</b> 2.memory pointer 3. data counter 4. file pointer
Physical memory is divided into sets of finite size called as ____ .	1. <b>Frames</b>  2.Pages  3.Blocks 4.  Vectors
Pipeline implement	1. <b>fetch instruction</b> 2. decode instruction 3. fetch operand 4. calculate operand
PLA stands for	1. programmable lead array 2. programmable logic agency 3. predicted logic array 4. <b>programmable logic array</b>
poor relationships amongst team member is _____ risk	1. product 2. <b>people</b> 3. business

	4. technology
Pre-emptive scheduling is the strategy of temporarily suspending a running process	1. to allow starving processes to run 2. before the CPU time slice expires 3. when it requests I/O 4. to avoid collision

Predict Output, if the below code is run with given command?	
Command Line : <code>java myprog good morning everyone</code>	1. myprog 2. good 3. <b>morning</b> 4. everyone
<pre>public class myprog {     public static void main(String argv[])     {         System.out.println(argv[1])     } }</pre>	

Predict the output of following C++ program	
<pre>#include using namespace std;  class Empty {};  int main() {     cout &lt;&lt; sizeof(Empty);     return 0; }</pre>	A non-zero value Compiler Error Runtime Error

Predict the output of following program.	1. Compiler Error in show() because x is protected in class A  2. Compiler Error in show() because y is private in class b
<pre>#include using namespace std; class A { protected:</pre>	

```

int x;
public:
A() {x = 0;}
friend void show();
};

class B: public A
{
public:
B() : y(0) {}
private:
int y;
};

void show()
{
    A a;
    B b;
    cout << "The default value of A::x = " << a.x << " ";
    cout << "The default value of B::y = " << b.y;
}

```

Present states of asynchronous circuits are also called

1. secondary variables
2. primary variables
3. excitation variables
4. short term memory

Prim's algorithm follows \_\_\_\_\_ search

1. Global
2. Local
3. Binary
4. Linear

Primed or unprimed variable is

1. map
2. logic gates
3. literal
4. graph

<p>Process Control Block (PCB) is also called.....</p>	<ol style="list-style-type: none"> <li>1. Program Control Block</li> <li>2. Memory Control Block</li> <li>3. <b>Task Control Block</b></li> <li>4. None of the above</li> </ol>
<p>Producer – Consumer problem, one of the classical problems of synchronization is also called.....</p>	<ol style="list-style-type: none"> <li>1. <b>Bounded Buffer Problem</b></li> <li>2. Readers Writers Problem</li> <li>3. Dining Philosophers Problem</li> <li>4. None of the above</li> </ol>
<p>Product of 1011 and 101</p>	<ol style="list-style-type: none"> <li>1. <b>110111</b></li> <li>2. 110011</li> <li>3. 111011</li> <li>4. 111100</li> </ol>
<p>Program always deals with:</p>	<ol style="list-style-type: none"> <li>1. <b>logical address</b></li> <li>2. <b>physical address</b></li> <li>3. <b>absolute address</b></li> <li>4. <b>relative address</b></li> </ol>
<p>Prototyping is an important technique of _____</p>	<ol style="list-style-type: none"> <li>1. <b>requirements validation</b></li> <li>2. requirement specification</li> <li>3. feasibility study</li> </ol>

	4. coding
PSW is saved in stack when there is a	<ol style="list-style-type: none"> <li>1. interrupt recognised</li> <li>2. execution of RST instruction</li> <li>3. Execution of CALL instruction</li> <li>4. Execution of RET instruction</li> </ol>
<pre>public class MyRunnable implements Runnable {     public void run()     {         // some code here     } }</pre>	<ol style="list-style-type: none"> <li>1. new Runnable(MyRunnable).start();</li> <li>2. new Thread(MyRunnable).run();</li> <li>3. new Thread(new MyRunnable()).start();</li> <li>4. new MyRunnable().start();</li> </ol>
which of these will create and start this thread?	
Purpose of process is to deliver software	<ol style="list-style-type: none"> <li>1. in time</li> <li>2. with acceptable quality</li> <li>3. that is cost efficient</li> <li>4. both a &amp; b</li> </ol>
Race condition is present in	<ol style="list-style-type: none"> <li>1. synchronous logic circuit</li> <li>2. asynchronous logic circuit</li> <li>3. ideal logic circuit</li> <li>4. both a and b</li> </ol>

Race in which stable state depends on order is called	1. critical race 2. identical race 3. non critical race 4. defined race
Rate of movement of light in lamp handball game is determined by clock's	1. input 2. frequency 3. voltage 4. current
Rather than AND-OR gates combinational circuits are made by	1. NAND-NOR 2. NAND-OR 3. OR only 4. AND only
<b>Recursion is sometimes called ?</b>	1. Circular definition 2. Complex definition 3. Procedure 4. Union
Reduction of flip-flops in a sequential circuit is referred to as	1. reduction 2. state reduction 3. next state 4.

	Assignment
Register renaming is done in pipelined processors	<p>1. as an alternative to register allocation at compile time</p> <p>2. for efficient access to function parameters and local variables</p> <p>3. <b>to handle certain kinds of hazards</b></p> <p>4. as part of address translation</p>
Relationship between clock output and master slave output gives	<p>1. <b>timing diagram</b></p> <p>2. map</p> <p>3. chart</p> <p>4. table</p>
Reliability, Response time and Storage requirements are examples of __	<p>1. design constraint</p> <p>2. functional requirement</p> <p>3. <b>non functional requirement</b></p> <p>4. process standard</p>
Representation of 8620 in binary is	<p>1. 1000_0111_1110_0000</p> <p>2. <b>1000_0110_0010_0000</b></p> <p>3. 1000_0110_1010_0000</p> <p>4. 1011_0110_0010_0000</p>
Requirements can be refined using:	<p>1. The waterfall model</p> <p>2. <b>prototyping model</b></p> <p>3. the evolutionary model</p> <p>4. the spiral model</p>

Requirements that change due to the system's environment is said to be _____	<ol style="list-style-type: none"> <li>1. <b>Mutable requirements</b></li> <li>2. Compatibility requirements</li> <li>3. Emergent requirements</li> <li>4. Consequential requirements</li> </ol>
Requirements that emerge as understanding of the system develops is termed as_____	<ol style="list-style-type: none"> <li>1. Mutable requirements</li> <li>2. <b>Emergent requirements</b></li> <li>3. Consequential requirements</li> <li>4. Compatibility requirements</li> </ol>
Requirements which change during development or when the system is in use are said to be _____	<ol style="list-style-type: none"> <li>1. stable requirement</li> <li>2. <b>volatile requirement</b></li> <li>3. functional requirement</li> <li>4. non functional requirement</li> </ol>
Requirements which specify that the delivered product must behave in a particular way is _____	<ol style="list-style-type: none"> <li>1. design constraint</li> <li>2. <b>product requirement</b></li> <li>3. organisational requirement</li> <li>4. external requirement</li> </ol>
Resolution of externally defined symbols is performed by	<ol style="list-style-type: none"> <li>1. Loader</li> <li>2. Assembler</li> <li>3. <b>Linker</b></li> <li>4. Compiler</li> </ol>
Resources are allocated to the process on non-sharable basis is	<ol style="list-style-type: none"> <li>1. <b>mutual exclusion</b></li> <li>2. circular wait</li> <li>3. hold and wait</li> <li>4. no pre-emption</li> </ol>

Ripple counter can not be described by	1. Boolean equation 2. clock duration 3. graph 4. flow chart
Ripple counters are also called	1. SSI counters 2. <b>asynchronous counters</b> 3. synchronous counters 4. VLSI counters
Risks are explicitly assessed and resolved throughout the process in ____ model	1. <b>spiral</b> 2. prototyping 3. prototyping 4. waterfall
Round robin scheduling is essentially the preemptive version of ____ ?	1. <b>FIFO</b> 2.Shortest job first 3.Shortest remaining 4.Longest time first
Round Robin(RR) scheduling algorithm is suitable for.....	1. Real Time Operating Systems 2. Embedded Operating Systems 3. Distributed Operating Systems 4. <b>Time Sharing Operating Systems</b>
RS flipflop works on	1. <b>2 inputs</b> 2. 3 inputs 3. 4 inputs 4. 5 inputs

Run time mapping from virtual to physical address is done by:	1. memory management unit 2. PCI 3. CPU 4. semaphore tool
Runtime polymorphism can be achieved by	1. accessing virtual function through the pointer of base class. 2. by accessing virtual function through the object 3. Accessing physical function. 4. none of these
Serial adder can be converted to serial adder subtract or using	1. encoder 2. demux 3. multiplier 4. mode control
Serial addition can be done with	1. shift register 2. serial load 3. load 4. ring shift register
Shift register whose input is connected to select output is called	1. feedback shift register 2. bidirectional shift register 3. unidirectional shift register 4. ring shift register
Shift registers having four bits will enable shift control signal for	1. 2 clock pulses 2. 3 clock pulses 3. 4 clock pulses 4.

	5 clock pulses
Simplest registers only consists of	1. counter 2. EPROM 3. latch 4. <b>flipflop</b>
Simplified expression of full adder carry is	1. <b>c=xy+xz+yz</b> 2. $c=xy+xz$ 3. $c=xy+yz$ 4. $c=x+y+z$
Simplified expression of half adder carry is	1. $c=xy+x$ 2. $c=y+x$ 3. $c=xy+y$ 4. $c=xy$
Software must be usable by the users for which it was designed is termed as _____	1. productivity 2. <b>usability</b> 3. reliability 4. efficiency
Software should not make wasteful use of system resources is termed as_____	1. productivity 2. usability 3. <b>efficiency</b> 4. reliability
Sometimes the overhead of keeping track of a hole might be :	1. <b>larger than the hole itself</b> 2. larger than the memory 3. very small 4.small or big depends on os

SR latch consists of	<ol style="list-style-type: none"> <li>1.</li> <li>1 input</li> <li>2.</li> <li><b>2 inputs</b></li> <li>3.</li> <li>3 inputs</li> <li>4.</li> <li>4 inputs</li> </ol>
SRD stands for:	<ol style="list-style-type: none"> <li>1.</li> <li>Software requirements definition</li> <li>2.</li> <li><b>Structured requirements definition</b></li> <li>3.</li> <li>Software requirements diagram</li> <li>4.</li> <li>Structured requirements diagram</li> </ol>
Stable condition in transition table is given by expression	<ol style="list-style-type: none"> <li>1.</li> <li><math>Y=x</math></li> <li>2.</li> <li><b>X=x</b></li> <li>3.</li> <li><math>Y=y</math></li> <li>4.</li> <li><math>X=y</math></li> </ol>
STACK IS ALSO CALLED	<ol style="list-style-type: none"> <li>1.</li> <li><b>Last in First out</b></li> <li>2.</li> <li>First In last Out</li> <li>3.</li> <li>First In First Out</li> <li>4.</li> <li>Last In Last Out</li> </ol>
Star topology is used in	<ol style="list-style-type: none"> <li>1.</li> <li><b>LAN</b></li> <li>2.</li> <li>WAN</li> <li>3.</li> <li>MAN</li> <li>4.</li> <li>Internetwork</li> </ol>
State of flipflop can be switched by changing its	<ol style="list-style-type: none"> <li>1.</li> <li><b>input signal</b></li> <li>2.</li> <li>output signal</li> <li>3.</li> <li>momentary signals</li> <li>4.</li> <li>all signals</li> </ol>

Static analysers are software tools for _____	1. requirement analysis 2. diagram generators 3. <b>source text processing</b> 4. database management system
Strobe S in a mux acts as	1. <b>enable</b> 2. reset 3. clear 4. stop
Structured charts are a product of	1. requirement gathering 2. requirement analysis 3. <b>design</b> 4. coding
Subtraction of two binary numbers is done by taking complementing	1. output 2. subtract 3. <b>subtrahend</b> 4. remainder
Subtraction of two signed numbers is performed with	1. 1's complement 2. <b>2's complement</b> 3. 9's complement 4. 10's complement
Subtractor also have output to check if 1 has been	1. complemented 2. <b>borrowed</b> 3. shifted 4. primed

super keyword in Java is used for?	1. to refer to immediate child class of a class. 2. to refer to immediate parent class of a class. 3. to refer to current class object. 4. to refer to static member of parent class.
Superclass -subclass relationships, also known as _____	1. Aggregation 2. Association 3. Generalization 4. Communication
Supervisor state is	1. never used 2. required to perform any I/O 3. entered by programs when they enter the processor 4. only allowed to the operating system
Suppose n processes, P1, ..., Pn share m identical resource units, which can be reserved and released one at a time. The maximum resource requirement of process Pi is Si, where Si > 0. Which one of the following is a sufficient condition for ensuring that deadlock does not occur?	1. $\sum_{i=1}^n S_i < m+n$ 2. $\sum_{i=1}^n S_i > n$ 3. $\sum_{i=1}^n S_i < m*n$ 4. $\sum_{i=1}^n S_i < m$
Switch which clears flipflop to its initial state is called	1. clock 2. invert 3. hold 4. clear
Synchronous counter is a type of	1. SSI counters 2.

	LSI counters 3. <b>MSI counters</b> 4. VLSI counters
System generation:	1. is always quite simple 2. requires extensive tools to be understandable 3. is always very difficult 4. <b>varies in difficulty between systems</b>
Systematic manual analysis of the requirements are termed as_____	1. Feasibility study 2. <b>Requirements reviews</b> 3. Requirements elicitation 4. Requirements specification
Table that lists inputs for required change of states is called	1. truth table 2. <b>excitation table</b> 3. state table 4. clock table
Testing with customer data to check that it is acceptable is termed as _____ testing	1. system testing 2. module testing 3. <b>acceptance testing</b> 4. integration testing
The philosophy behind _____ is defect avoidance rather than defect removal .	1. Requirement analysis 2. Design verification 3. <b>Clean room software development</b> 4. Testing

The ..... operator is a technique to forcefully convert one data type to the other ?	1. <b>Cast</b> 2. Conversion 3. Type 4. Unary
The _____ is an iterative software development process framework created by the Rational Software Corporation	1. Spiral model 2. <b>Rational Unified Process</b> 3. Rational Prototyping 4. Waterfall
The _____ is used when you have one case that is similar to another use case but does a bit more specialized	1. includes association 2. <b>extends association</b> 3. fix association 4. realize association
The _____ may be used for user training before a final system is delivered	1. pattern 2. <b>prototype</b> 3. architecture 4. testcase
The _____ is a software development process intended to produce software with a certifiable level of reliability.	1. design process 2. business process 3. software engineering process 4. <b>cleanroom software engineering process</b>
The __ defines the types of documents to be managed and a document naming scheme	1. <b>CM plan</b> 2. project plan 3. Baseline 4. CI plan

<p>The address mapping is done, when the program is initially loaded is called ?</p>	<ol style="list-style-type: none"> <li>1. Relocation</li> <li>2. Dynamic relocation</li> <li>3. <b>Static relocation</b></li> <li>4. Executable relocation</li> </ol>
<p>The addressing mode used in an instruction of the form ADD X Y, is</p>	<ol style="list-style-type: none"> <li>1. Absolute</li> <li>2. indirect</li> <li>3. <b>register direct</b></li> <li>4. direct</li> </ol>
<p>The atomic fetch-and-set x, y instruction unconditionally sets the memory location x to 1 and fetches the old value of x in y without allowing any intervening access to the memory location x. consider the following implementation of P and V functions on a binary semaphore .</p> <pre>void P (binary_semaphore *s) {     unsigned y; unsigned *x = &amp;(s-&gt;value);     do {   fetch-and-set x, y; } while (y);} void V (binary_semaphore *s) {     S-&gt;value = 0;}</pre> <p>Which one of the following is true?</p>	<ol style="list-style-type: none"> <li>1. <b>The implementation may not work if context switching is disabled in P.</b></li> <li>2. Instead of using fetch-and-set, a pair of normal load/store can be used</li> <li>3. The implementation of V is wrong</li> <li>4. The code does not implement a binary semaphore</li> </ol>
<p>The binary address issued to data or instructions are called as _____.</p>	<ol style="list-style-type: none"> <li>1. Physical address</li> <li>2. Location</li> <li>3. Relocatable address</li> <li>4. <b>Logical address</b></li> </ol>
<p>The class java.lang.Exception is</p>	<ol style="list-style-type: none"> <li>1. protected</li> <li>2. <b>extends Throwable</b></li> <li>3. implements Throwable</li> <li>4. serializable</li> </ol>

The code snippet  if( "Welcome".trim() == "Welcome".trim() ) System.out.println("Equal"); else System.out.println("Not Equal");  will	1.compile and display "Equal" 2.compile and display "Not Equal" 3.cause a compiler error 4.compile and display NULL
The concept of _____ is used to represent a system whose inside workings are not available for inspection.	1. Red box testing 2. <b>black box testing</b> 3. Glass box testing 4. White box testing
The condition flag Z is set to 1 to indicate,	1. The operation has resulted in an error 2. The operation requires an interrupt call 3. <b>The result is zero</b> 4. There is no empty register available
The conditions that must be present in order to start a use case is _____	1. start condition 2. <b>precondition</b> 3. postcondition 4. event tracking
The data on a DVD is held in the form of ..... on the disc.	1. <b>small pits and bumps</b> 2. small bits 3. small bytes 4. None of These
The decoded instruction is stored in	1. <b>Instruction Register</b> 2. Program Counter

	3. Register 4. Memory Data Register
The depth of a complete binary tree is given by _____	1. $n \log n$ 2. $n \log n + 1$ 3. $\log n$ 4. <span style="background-color: yellow;">log n + 1</span>
The derivation of Child class from Base class is indicated by _____ symbol.	1. $\dots$ 2. <span style="background-color: yellow;">:</span> 3. $;$ 4. $ $
The design process for identifying the subsystems making up a system and the framework for sub-system control and communication is _____	1. <span style="background-color: yellow;">architectural design</span> 2. form design 3. layer design 4. design
The disadvantage of moving all process to one end of memory and all holes to the other direction, producing one large hole of available memory is :	1. the memory used 2. <span style="background-color: yellow;">the cost incurred</span> 3. the CPU used 4. All of these
The DMA controller has _____ registers	1. 4 2. <span style="background-color: yellow;">3</span> 3. 2 4. 1
The DMA transfer is initiated by _____	1. Processor 2.

	<p>The process being executed</p> <p>3. <b>I/O devices</b></p> <p>4. OS</p>
The expression X=4+2%-8 evaluates ?	<p>1. -6</p> <p>2. <b>6</b></p> <p>3. 2</p> <p>4. -2</p>
The fibre that will float on water.	<p>1. Nylon</p> <p>2. Polyester</p> <p>3. Acrylic</p> <p>4. <b>Polypropylene</b></p>
<p>The following program is an example for?</p> <pre>class Student{     int id;     String name;     void display(){System.out.println(id+" "+name);}     public static void main(String args[]){         Student s1=new Student();         Student s2=new Student();         s1.display();         s2.display();     } }</pre>	<p>1.Parameterized constructor</p> <p>2.<b>Default Constructor</b></p> <p>3.Overloading Constructor</p> <p>4.None of the above</p>
<p>The following two statements illustrate the difference between</p> <p>a</p> <pre>int x = 25; Integer y = new Integer(33);</pre>	<p>1. Primitive data types</p> <p>2. <b>primitive data type and an object of a wrapper class</b></p> <p>3. Wrapper class</p> <p>4. None of the above</p>
The high paging activity is called.....	<p>1. Fragmentation</p> <p>2. Segmentation</p>

	3. <b>Thrashing</b> 4. memory allocation
The Instruction fetch phase ends with,	1. Placing the data from the address in MAR into MDR  2. Placing the address of the data into MAR  3. Completing the execution of the data and placing its storage address into MAR  4. <b>Decoding the data in MDR and placing it in IR</b>
The instructions which copy information from one location to another either in the processor's internal register set or in the external main memory are called	1. Program control instructions. 2. Input-output instructions 3. <b>Data transfer instructions.</b> 4. Logical instructions.
The interrupt-request line is a part of the	1.Data line  <b>2.Control line</b>  3.Address line 4.None of the above
The longer a fault exists in software	1. the more tedious its removal becomes 2. the more costly it is to detect and correct 3. the less likely it is to be properly corrected 4. <b>All of the mentioned</b>

The maximum number of processes that can be in Ready state for a computer system with n CPUs is	1. n 2. $n^2$ 3. $2n$ 4. Independent of n
The measure of the average length of words and sentences in documents is termed as _____.	1. coupling 2. <b>Fog index</b> 3. cohesion 4. fan in
The mechanism that binds code and data together to keep them secure from outside world is known as	1. Abstraction 2. <b>encapsulation</b> 3. Inheritance 4. Polymorphism
The memory allocation scheme subject to "external" fragmentation is	1. <b>segmentation</b> 2. swapping 3. multiple contiguous fixed partitions 4. pure demand paging
The most appropriate matching for the following pairs  X: depth first search      1: heap Y: breadth-first search      2: queue Z: sorting      3: stack	1. X—1 Y—2 Z-3 2. X—3 Y—1 Z-2 3. <b>X—3 Y—2 Z-1</b> 4. X—2 Y—3 Z-1
The most common addressing techniques employed by a CPU is	1. immediate 2. direct 3. indirect 4.

	register
The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100). The result shall be	<p>1. <b>(812) 10</b></p> <p>2. (-12) 10</p> <p>3. (12) 10</p> <p>4. (-812) 10</p>
The object of DataInputStream is used to	<p>1. To covert binary stream into character stream</p> <p>2. to covert character stream into binary stream</p> <p>3. To write data onto output object</p> <p>4. All of the above</p>
The objective of _____ is to deliver a working system to end-users	<p>1. designing</p> <p>2. testing</p> <p>3. throw away prototyping</p> <p>4. <b>evolutionary prototyping</b></p>
The operating system and the other processes are protected from being modified by an already running process because :	<p>1. they are in different memory spaces</p> <p>2. they are in different logical addresses</p> <p>3. they have a protection algorithm</p> <p>4. <b>every address generated by the CPU is being checked against the relocation and limit registers</b></p>
The operating system creates ___ from the physical computer	<p>1. <b>Virtual computers</b></p> <p>2. Virtual space</p> <p>3. Virtual device</p> <p>4. None</p>

The operating system is :	1. in the low memory 2. in the high memory 3. Secondary memory 4. either a or b (depending on the location of interrupt vector)
The page table contains:	1. base address of each page in physical memory 2. page size 3. page offset 4. PTBR
The pager concerns with the:	1. first page of a process 2. entire thread 3. individual page of a process 4. entire process
The performance of cache memory is frequently measured in terms of a quantity called	1. Miss ratio. 2. Hit ratio. 3. Latency ratio. 4. Read ratio.
The performance of Round Robin(RR) scheduling depends on.....	1. quantum 2. priority 3. preemption 4. None of the above
The performance of the cache memory is measured in terms of ?	1. Hit Ratio 2. Chat Ratio 3. Copy Ratio 4. Data Ratio

The primary objective of _____ is to scope the system adequately as a basis for validating initial costing and budgets.	1. elaboration phase 2. construction phase 3. <b>inception phase</b> 4. transistion phase
The primary objective of_____ phase is to mitigate the key risk items identified by analysis up to the end of this phase.	1. inception 2. <b>elaboration</b> 3. construction 4. transistion
The process of storing and restoring from PCB is called	1. Loading 2. Relocation 3. <b>context switch.</b> 4. Dispatcher
The process that is currently being executed is called	1. Waiting State 2. <b>Running State</b> 3. Ready state 4.  None of the above
The recurring aspects of designs are called design.....	1. <b>patterns</b> 2. documents 3.objects 4.classes
The relocation register helps in :	1.providing more address space to processes  2.a different address space to processes  3. to save the process state in PCB  4. <b>to protect the address spaces of processes</b>

The resolution of externally defined symbols is performed by?	1. Compiler 2. Assembler 3. <b>Linker</b> 4. None of the above
The RUP has determined a project life-cycle consisting of ___ phases.	1. <b>four</b> 2. five 3. six 4. seven
The size of the Multiplier Quotient in IAS machine is	1.20 Bits 2.12 Bits <b>3.40 Bits</b> 4.8 Bits
The size of the Program Counter in IAS machine is	1. 12 2. 20 3. <b>40</b> 4. 8
The SRS is said to be consistent if and only if:	1. its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure 2. every requirement stated therein is one that the software shall meet 3. every requirement stated therein is verifiable 4. <b>no subset of individual requirements described in it conflict with each other</b>
The strategy of allowing processes that are logically runnable to be temporarily suspended is called	1. <b>preemptive scheduling</b>

	<p>2. non preemptive scheduling 3. shortest job first 4. first come first served</p>
The sum of $11101 + 10111$ equals ____.	<p>1. 110011 2. 100001 3. <b>110100</b> 4. 100100</p>
The technique where the controller is given complete access to main memory is	<p>1. Cycle stealing 2. Memory stealing 3. Memory Con 4. <b>Burst mode</b></p>
The techniques which move the program blocks to or from the physical memory is called as ____.	<p>1. Paging 2. <b>Virtual memory organisation</b> 3. Overlays 4. Framing</p>
The total number of processes completed per unit time is termed as	<p>1. <b>throughput</b> 2. response time 3. waiting time 4. Turn around time</p>
The two phases of executing an instruction are,	<p>1. Instruction decoding and storage 2.</p>

	<p><b>Instruction fetch and instruction execution</b></p> <p>3. Instruction execution and storage</p> <p>4. Instruction fetch and Instruction processing</p>
The unit which decodes and translates each instruction and generates the necessary enable signals for ALU and other units is called	<p>1. ALU</p> <p>2. <b>Control Unit</b></p> <p>3. CPU</p> <p>4. Logical Unit</p>
The virtual memory basically stores the next segment of data to be executed on the _____.	<p>1. <b>Secondary storage</b></p> <p>2. Disks</p> <p>3. RAM</p> <p>4. ROM</p>
The ..... register is read by the host to get input	<p>1. data out</p> <p>2. <b>data in</b></p> <p>3. flow out</p> <p>4. None</p>
The ..... register is read by the host to get input	<p>1. data out</p> <p>2. <b>data in</b></p> <p>3. flow out</p> <p>4. None of the above</p>
The memory address of the first element of an array is called	1.floor address

	<p>2.foundation address 3.first address <b>4.base address</b></p>
	<p>1. <math>\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}) + w(5 - \text{lower bound})</math>, where w is the number of words per memory cell for the array 2. <math>\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}[5]) + (5 - \text{lower bound})</math>, where w is the number of words per memory cell for the array 3. <math>\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}[4]) + (5 - \text{Upper bound})</math>, where w is the number of words per memory cell for the array 4. None of these</p>
The memory address of fifth element of an array can be calculated by the formula	<p>1. K 2. F 3. <b>Z</b> 4. R</p>
The ___ notation is a mature technique for model-based specification.	<p>1. determining feedback loop 2. designating output of loops 3. <b>deriving functions of Y</b> 4. plotting Y</p>
Third step of making transition table is	<p>1. is a natural consequence of virtual memory systems 2. always occurs on large computers</p>
Thrashing	

	<p>3. can be caused by poor paging algorithms 4. can always be avoided by swapping</p>
Thrashing occurs when	<p>1. When a page fault occurs 2. <b>Processes on system frequently access pages not memory</b> 3. Processes on system are in running state 4. Processes on system are in waiting state</p>
Thread class is available in	<p>1. java.io package 2. <b>java.lang package</b> 3. java.awt package 4. java.util package</p>
Three concurrent processes X, Y, and Z execute three different code segments that access and update certain shared variables. Process X executes the P operation (i.e., wait) on semaphores a, b and c; process Y executes the P operation on semaphores b, c and d; process Z executes the P operation on semaphores c, d, and a before entering the respective code segments. After completing the execution of its code segment, each process invokes the V operation (i.e., signal) on its three semaphores. All semaphores are binary semaphores initialized to one. Which one of the following represents a deadlockfree order of invoking the P operations by the processes?	<p>1. X: P(a)P(b)P(c) Y:P(b)P(c)P(d) Z:P(c)P(d)P(a) 2. <b>X: P(b)P(a)P(c) Y:P(b)P(c)P(d)</b> <b>Z:P(a)P(c)P(d)</b> 3. X: P(b)P(a)P(c) Y:P(c)P(b)P(d) Z:P(a)P(c)P(d) 4. X: P(a)P(b)P(c) Y:P(c)P(b)P(d) Z:P(c)P(d)P(a)</p>
Time between clock pulses are called	<p>1. bit duration 2. clock duration 3. duration 4. <b>bit time</b></p>
Time delay device is memory element of	<p>1. unclocked flip-flops 2.</p>

1. unclocked flip-flops
- 2.

<p>Time delay device is memory element of</p>	<p>clocked flip-flops 3. synchronous circuits 4. <b>asynchronous circuits</b></p>
<p>Time sequence for flip-flop can be enumerated by</p>	<p>1. <b>state table</b> 2. map 3. truth table 4. graph</p>
<p>To access a structure element using a pointer, ..... operator is used?</p>	<p>1. dot ( . ) 2. pointer ( &amp; ) 3. pointer ( * ) 4. <b>arrow ( -&gt; )</b></p>
<p>To avoid the race condition, the number of processes that may be simultaneously inside their critical section is</p>	<p>1.8 2.10 <b>3.1</b> 4.0</p>
<p>To clear flip-flops we use</p>	<p>1. <b>toggle switch</b> 2. push button 3. mux 4. demux</p>
<p>To execute the threads one after another</p>	<p>1. the keyword synchronize is used 2. the keyword synchronizable is used 3. <b>the keyword synchronized is used</b> 4. None of the above</p>
<p>To implement Boolean function with NAND gates we convert function to</p>	<p>1. AND logic 2. OR logic</p>

	<p>3. NOR logic 4. <b>NAND logic</b></p>
To load data to shift register its SH/LD pin should be	<p>1. 1 2. <b>0</b> 3. reset 4. undefined</p>
To start counting enable input should be	<p>1. 0 2. <b>1</b> 3. reset 4. clear</p>
Token bucket allows bursty traffic to be regulated at	<p>1. <b>maximum rate</b> 2. minimum rate 3. both 4. none</p>
Tools to support later activities such as programming,debugging and testing are _____	<p>1. Upper -CASE 2. <b>Lower-CASE</b> 3. CASE 4. Middle-CASE</p>
Tools to support the early process activities of requirements and design are _____	<p>1. <b>Upper-CASE</b> 2. Lower-CASE 3. Middle-CASE 4. CASE</p>
Traditional software development approach is based on____	<p>1. classes and methods 2. Objects and Isolated data</p>

	3. <b>functions and procedures</b> 4. <b>attributes</b>
Transference of information from one register to another is	1. Intra-register transfer operation 2. <b>Inter-register transfer operation</b> 3. Out register transfer operation 4. In register transfer operation
Transition table that terminates in total stable state gives	1. sequence 2. series 3. <b>unique sequence</b> 4. unique series
Trees are examples of which type of data structure	1. Linear and Hierarchical 2. Linear and Non-Hierarchical 3. <b>Non-Linear and Hierarchical</b> 4. Non-Linear and Non-Hierarchical
Two bit addition is done by	1. ripple carry adder 2. carry sum adder 3. full adder 4. <b>half adder</b>
Two bit subtraction is done by	1. demux 2. mux 3. full subtractor 4. <b>half subtractor</b>
Two cross coupled NAND gates make	1. <b>SR Latch</b> 2. RS flipflop

	3. D flipflop 4. master slave flipflop
Two dimensional arrays are also called	1. tables arrays 2. matrix arrays 3. <b>tables and matrix arrays</b> 4.attributes
Two dimensional arrays are also called ?	1. Matrices 2. Tables 3. <b>Matrices and Tables</b> 4. Neither Matrices nor table
Two methods are said to be overloaded if they have,	1. same name and same number of parameter but different return type. 2. they have same name. 3. they have different name but same number of argument. 4. <b>have same name but different parameters.</b>
Two sub layers of OSI Data Link layer are which of the following?	1. Data Link Control, Physical Layer Control 2. Logical Link Control, Data Link Control 3. Media Access Control, Physical Layer Control 4. <b>Logical Link Control, Media Access Control</b>
Using 10's complement 3250-72532 is	1. -69272 2. <b>-69282</b> 3. -69252

	4. -69232
Using an executable model of the system to check requirements is termed as _____.	1. Prototyping 2. Requirement reviews 3. <b>Requirement validation</b> 4. Requirement analysis
Virtual memory is	1. Large secondary memory 2. Large main memory 3. <b>Illusion of large main memory</b> 4. None of the above
Virtual memory is	1. an extremely large main memory 2. an extremely large secondary memory 3. <b>an illusion of an extremely large memory</b> 4. a type of memory used in super computers
What are the types of requirement in Quality Function Deployment(QFD)	1. Known, Unknown, Undreamed 2. User, Developer  3. Functional, Non-Functional 4. <b>Normal, Expected, Exciting</b>
What DFD notation is represented by the Rectangle?	1. Transform 2. <b>Data Store</b>  3. Function

	4. Data read
What does the file iostream contain?	1. Declarations of the standard input-output library functions. 2. Definitions of the standard input-output library functions. 3. Both 4. None of the Above
What incorporates data, architectural, interface, and procedural representations of the software?	1. <b>design model</b>  2. user's model 3. mental image 4. system image
What information does EIGRP share with neighboring routers?	1. Only dynamic routes that it is using 2. <b>All routes that it has learned</b> 3. All EIGRP routes that it has learned 4. Only routes that it is using
What is a shell ?	1. is a hardware component 2. <b>It is a command interpreter</b> 3. It is a part in compiler 4. It is a tool in CPU scheduling
What is a stub network?	1. A network with only one entry and no exit point. 2. A network with more than one exit point. 3. A network with more than one exit and entry point.

	4. <b>A network that has only one entry and exit point.</b>
What is an aggregate object?	1. An object with only primitive attributes 2. An instance of a class which has only static methods 3. <b>An instance which has other objects</b> 4. None of the above
What is compaction?	1. a technique for overcoming internal fragmentation 2. a paging technique 3. <b>a technique for overcoming external fragmentation</b> 4. a technique for overcoming fatal error
What is difference between protected and private access specifiers in inheritance?	1. private member is not inheritable and not accessible in derived class 2. <b>protected member is inheritable and also accessible in derived class</b> 3. Both are inheritable but private is accessible in the derived class 4. Both are inheritable but protected is not accessible in the derived class
What is route poisoning?	1. <b>It describes when a router sets the metric for a downed link to infinity</b> 2. It sends back the protocol received from a router as a poison pill, which stops the regular updates. 3. It is information received from a router that can't be sent back to the originating router. 4.

	<p>It prevents regular update messages from reinstating a route that has just come up.</p>
What is split horizon?	<ol style="list-style-type: none"> <li>1. Information about a route should not be sent back in the direction from which the original update came.</li> <li>2. It splits the traffic when you have a large bus (horizon) physical network.</li> <li>3. It holds the regular updates from broadcasting to a downed link.</li> <li>4. It prevents regular update messages from reinstating a route that has gone down</li> </ol>
What is the major drawback of using RAD Model?	<ol style="list-style-type: none"> <li>1. Highly specialized &amp; skilled developers/designers are required</li> <li>2. Increases re-usability of components.</li> <li>3. Encourages customer/client feedback.</li> <li>4. Both a &amp; c.</li> </ol>
What is the default subnet mask for a class C network?	<ol style="list-style-type: none"> <li>1. 255.0.0.0</li> <li>2. 127.0.0.1</li> <li>3. 255.255.255.0</li> <li>4. 255.255.0.0</li> </ol>
What is the difference between binary coding and binary-coded decimal?	<ol style="list-style-type: none"> <li>1. BCD is pure binary.</li> <li>2. Binary coding has a decimal format.</li> <li>3. BCD has no decimal format.</li> <li>4. <b>Binary coding is pure binary.</b></li> </ol>
	<ol style="list-style-type: none"> <li>1.</li> </ol>

<p>What is the difference between overloaded functions and overridden functions?</p>	<p>Overloading is a static or compile-time binding and Overriding is dynamic or run-time binding</p> <ol style="list-style-type: none"> <li>2.</li> <li>Overloading is a dynamic or run-time binding and Overriding is static or compile-time binding</li> <li>3.</li> <li>Redefining a function in a friend class is called function overriding while Redefining a function in a derived class is called a overloaded fucntion.</li> <li>4.</li> <li>Redefining a function in a friend class is called function overloading while Redefining a function in a derived class is called as overridden fucnion.</li> </ol>
<p>What is the difference between protected and private access specifiers in inheritance?</p>	<ol style="list-style-type: none"> <li>1.private member is not inheritable and not accessible in derived class</li> <li>2.protected member is inheritable and also accessible in derived class</li> <li>3.Both are inheritable but private is accessible in the derived class</li> <li>4.Both are inheritable but protected is not accessible in the derived class</li> </ol>
<p>What is the main function of transport layer?</p>	<ol style="list-style-type: none"> <li>1.</li> <li>process to process message delivery</li> <li>2.</li> <li>node to node delivery</li> <li>3.</li> <li>synchronization</li> <li>4.</li> <li>updating and maintenance of routing tables</li> </ol>
<p>What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?</p>	<ol style="list-style-type: none"> <li>1.</li> <li>16</li> <li>2.</li> <li>30</li> <li>3.</li> <li>15</li> <li>4.</li> <li>14</li> </ol>

<p>What is the name given to the organized collection of software that controls the overall operation of a computer?</p>	<ol style="list-style-type: none"> <li>1. Working system</li> <li>2. <b>Operating system</b></li> <li>3. Controlling system</li> <li>4. Peripheral system</li> </ol>
<p>What is the output of the program</p> <pre>#include&lt;iostream.h&gt;  void main() {     int n=1;     cout&lt;&lt;endl&lt;&lt;"The numbers are;"&lt;&lt;endl;     do     {         cout &lt;&lt;n&lt;&lt;"\t";         n++;     } while (n&lt;=100);     cout &lt;&lt;endl; }</pre>	<ol style="list-style-type: none"> <li>1. Print natural numbers 0 to 99</li> <li>2. Print natural numbers 1 to 99</li> <li>3. Print natural numbers 0 to 100</li> <li>4. <b>Print natural numbers 1 to 100</b></li> </ol>
<p>What is the output of this code?</p> <pre>package pkg; class display {     int x;     void show() {         if (x &gt; 1)             System.out.print(x + " ");     } } class packages {     public static void main(String args[]) {         display[] arr=new display[3];         for(int i=0;i&lt;3;i++)             arr[i]=new display();         arr[0].x = 0;         arr[1].x = 1;         arr[2].x = 2;         for (int i = 0; i &lt; 3; ++i)             arr[i].show();     } }</pre>	<p>1.0</p> <p>2.1</p> <p><b>3.2</b></p> <p>4.0 1 2</p>
<p>What is the output of this program?</p> <pre>#include &lt;iostream&gt;</pre>	<ol style="list-style-type: none"> <li>1.</li> <li>4</li> <li>2.</li> <li><b>5</b></li> </ol>

```
using namespace std;
int main()
{
    int arr[] = {4, 5, 6, 7};
    int *p = (arr + 1);
    cout << *p;
    return 0;
}
```

3.  
6  
4.  
7

What is the output of this program?

```
class array_output {
    public static void main(String args[])
    {
        int array_variable [] = new int[10];
        for (int i = 0; i < 10; ++i) {
            array_variable[i] = i;
            System.out.print(array_variable[i] + " ");
            i++;
        }
    }
}
```

1.  
**0 2 4 6 8**  
2.  
1 3 5 7 9  
3.  
0 1 2 3 4 5 6 7 8 9  
4.  
1 2 3 4 5 6 7 8 9 10

What is the output of this program?

```
class average {
    public static void main(String args[])
    {
        double num[] = {5.5, 10.1, 11, 12.8, 56.9, 2.5};
        double result;
        result = 0;
        for (int i = 0; i < 6; ++i)
            result = result + num[i];
        System.out.print(result/6);
    }
}
```

1.  
16.34  
2.  
16.5555  
3.  
**16.46666666666667**  
4.  
16.4666666666

<pre>}</pre>	
<p>What is the output of this program?</p> <pre>class conversion {     public static void main(String args[])     {         double a = 295.04;         int b = 300;         byte c = (byte) a;         byte d = (byte) b;         System.out.println(c + " " + d);     } }</pre>	<p>1. 38 43 2. <b>39 44</b> 3. 295 300 4. 295.4 300.6</p>
<p>What is the output of this program?</p> <pre>class increment {     public static void main(String args[])     {         int g = 3;         System.out.print(++g * 8);     } }</pre>	<p>1. 24 2. 25 3. <b>32</b> 4. 33</p>
<p>What is the prototype of the default constructor for given class?</p> <pre>public class Test {}</pre>	<p>1. Test( ) 2. <b>onlineexam.Test()</b>    <b>public Test( )</b> 3. Test(void) 4. onlineexam.Test(void)</p>
<p>What is the purpose of domain name system (DNS)?</p>	<p>1. To map private IPv4 addresses to onlineexam.IPv4 addresses 2.</p>

	<p>To map MAC addresses to hostnames 3. <b>To map IPv4 addresses to hostnames</b> 4. To map IPv4 address to NetBIOS names</p>
What is the result of compiling and running this program?	<pre>class Mammal{     void eat(Mammal m){         System.out.println("Mammal eats food");     } }  class Cattle extends Mammal{     void eat(Cattle c){         System.out.println("Cattle eats hay");     } }  class Horse extends Cattle{     void eat(Horse h){         System.out.println("Horse eats hay");     } }  public class Test{     public static void main(String[] args){         Mammal h = new Horse();         Cattle c = new Horse();         c.eat(h);     } }</pre> <p>1. <b>prints "Mammal eats food"</b> 2. prints "Cattle eats hay" 3. Class cast Exception at runtime 4. None of these</p>
What is the swap space in the disk used for?	<p>1. Saving temporary html pages 2.</p>

	<p>Saving process data</p> <p>3. Storing the super-block</p> <p>4. Storing device drivers</p>
<p>What is the value of 'number' after the following code fragment execution?</p> <pre>int number = 0; int number2 = 12; while (number &lt; number2) {     number = number + 1; }</pre>	<p>1.</p> <p>5</p> <p>2.</p> <p>12</p> <p>3.</p> <p>21</p> <p>4.</p> <p>13</p>
<p>What kind of logic device or circuit is used to store information?</p>	<p>1.</p> <p>Counter</p> <p>2.</p> <p>Register</p> <p>3.</p> <p>Inverter</p> <p>4.</p> <p>Buffer</p>
<p>What kind of system is it that several users can use simultaneously?</p>	<p>1.</p> <p>Multiuser system</p> <p>2.</p> <p>Multilevel user system</p> <p>3.</p> <p>single user system</p> <p>4.</p> <p>Multiprocessing user system</p>
<p>What PPP protocol provides dynamic addressing, authentication, and multilink?</p>	<p>1.</p> <p>NCP</p> <p>2.</p> <p>HDLC</p> <p>3.</p> <p>X.25</p> <p>4.</p> <p>LCP</p>
<p>What will be the output of the following program?</p> <pre>class B {</pre>	<p>1.</p> <p>100</p> <p>2.</p> <p>101</p> <p>3.</p> <p>Error in line 13</p>

```

static int count = 100;
public void increment()
{
    count++;
}
public static void main(String []args)
{
    B b1 = new B();
    b1.increment();
    B b2 = new B();
    System.out.println(b2.count); // line 13
}
}

```

4.

0

What will be the output of the program ?

```

class A
{
    int x = 10;
    public void assign(int x)
    {
        x = x;
        System.out.println(this.x);
    }
    public static void main(String[] args)
    {
        new A().assign(100);
    }
}

```

1.

10

2.

100

3.

0

4.

compile-time error

What will be the output of the sample code?

```

public class Foo
{
    public static void main(String[] args)
}

```

1.Finally

2.Compilation fails.

3.The code runs with no output.

```

{
try
{
    return;
}
finally
{
    System.out.println( "Finally" );
}
}
}

```

4.An exception is thrown at runtime.

What will be the output of the sample program?

```

public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (Exception ex)
        {
            System.out.print("B");
        }
        finally
        {
            System.out.print("C");
        }
        System.out.print("D");
    }
    public static void badMethod()
}

```

1. ABCD
2. Compilation fails.
3. C is printed before exiting with an error message.
4. BC is printed before exiting with an error message.

```
{
    throw new Error();
}
```

What will be the output of the sample program?

```
try
{
    int x = 0;
    int y = 5 / x;
}
catch (Exception e)
{
    System.out.println("Exception");
}
catch (ArithmaticException ae)
{
    System.out.println(" Arithmatic Exception");
}
System.out.println("finished");
```

1. finished
2. Exception
- 3. Compilation fails.**
4. Arithmatic Exception

What will be the output of the this program?

```
#include <iostream>
```

```
using namespace std;
int main ()
{
    int array[] = {0, 2, 4, 6, 7, 5, 3};
    int n, result = 0;
    for (n = 0 ;n < 5 ;n++)
    {
        result += billy[n];
    }
    cout << result;
```

- 1.25
- 2.26
- 3.27
- 4. none of the above**

<pre>return 0; }</pre>	
<p>What will be the Output?</p> <pre>class A {     public void m1()     { System.out.println("A"); }      public class B extends A     {         void m1()         { System.out.println("B"); }          public static void main(String []args)         {             A a = new B();             a.m1();         }     } }</pre>	<ol style="list-style-type: none"> <li>1. runtime error</li> <li>2. A</li> <li>3. B</li> <li>4. <b>compilation error</b></li> </ol>
<p>What will happen if you try to compile and run the following code ?</p> <pre>class Test {     int x;     Test(int n)     {         System.out.println(x=n); // line 6     }      public static void main(String []args)     {</pre>	<ol style="list-style-type: none"> <li>1. Program exits without printing anything</li> <li>2. <b>Compilation error at line 10</b></li> <li>3. Compilation error at line 6</li> <li>4. Run-time exception</li> </ol>

<pre>Test n = new Test(); // line 10 } }</pre>	
<p>When a program tries to access a page that is mapped in address space but not loaded in physical memory, then?</p>	<ol style="list-style-type: none"> <li>1. segmentation fault occurs</li> <li>2. no error occurs</li> <li>3. <b>page fault occurs</b></li> <li>4. fatal error occurs</li> </ol>
<p>When a subroutine is called, the address of the instruction following the CALL instructions stored in/on the</p>	<ol style="list-style-type: none"> <li>1. stack pointer</li> <li>2. accumulator</li> <li>3. program counter</li> <li>4. <b>stack</b></li> </ol>
<p>When both inputs are 1 output of xor is</p>	<ol style="list-style-type: none"> <li>1.</li> <li>1</li> <li>2.</li> <li><b>0</b></li> <li>3.</li> <li>x</li> <li>4.</li> <li>10</li> </ol>
<p>When CPU is executing a Program that is part of the Operating System, it is said to</p>	<ol style="list-style-type: none"> <li>1. Interrupt mode</li> <li>2.</li> <li><b>System mode</b></li> <li>3.</li> <li>Half mode</li> <li>4.</li> <li>Simplex mode</li> </ol>
<p>When J and complement of K are 1, flipflop QA after shift</p>	<ol style="list-style-type: none"> <li>1.</li> <li><b>1</b></li> <li>2.</li> <li>0</li> <li>3.</li> <li>reset</li> <li>4.</li> <li>defined</li> </ol>

When mode of adder subtract or is 0 it will give	1. A-B 2. <b>A+B</b> 3. A/B 4. A*B
When mode of adder subtractor is 0 it	1. adds 2. <b>subtracts</b> 3. divides 4. multiply
When mode of adder subtractor is 1 it	1. adds 2. <b>subtracts</b> 3. divides 4. multiply
When overloading unary operators using Friend function, it requires____ argument/s.	1. Zero 2. <b>One</b> 3. Two 4. None of these.
When the memory allocated to a process is slightly larger than the process, then :	1. external fragmentation occurs 2. <b>internal fragmentation occurs</b> 3. both External and Internal Fragmentation occurs 4. neither External nor Internal Fragmentation occurs
When using Branching, the usual sequencing of the PC is altered. A new instruction is loaded which is called as ____	1.

	<p><b>Branch target</b></p> <p>2. Loop target</p> <p>3. Forward target</p> <p>4. Jump instruction</p>
When we create String with new() Operator, where is it stored?	<p>1. In to the String Pool</p> <p>2. <b>It is created in Heap but not added to String Pool</b></p> <p>3. Not stored anywhere</p> <p>4. None of the above</p>
When you ping the loopback address, a packet is sent where?	<p>1. Across the wire</p> <p>2. On the network</p> <p>3. <b>Down through the layers of the IP architecture and then up the layers again</b></p> <p>4. through the loopback dongle</p>
Whenever CPU detects an interrupt, what it do with current state ?	<p>1. <b>Save it</b></p> <p>2. Discard it</p> <p>3. Depends system to system</p> <p>4. First finish it</p>
Where can the Belady's anomaly occur?	<p>1. LRU Page Replacement Policy</p> <p>2. <b>FIFO Page Replacement Policy</b></p> <p>3. MRU Page Replacement Policy</p> <p>4.</p>

	Optimal Page Replacement Policy
Where does routing occur within the DoD TCP/IP reference model?	1. application 2. <b>internet</b> 3. network 4. transport
Where does the swap space reside ?	1. <b>Disk</b> 2. RAM 3. ROM 4. On-chip cache
Where does the swap space reside?	1.RAM  2. <b>Disk</b>  3.ROM  4.On-chip cache
Which of the following is not the operation on stack?	1. Push 2. Pop 3. Peep 4. Pull
Which of the following is/are the operations performed by kruskal's algorithm.  i) sort the edges of G in increasing order by length ii) keep a subgraph S of G initially empty iii) builds a tree one vertex at a time	1. <b>i, and ii only</b> 2. <b>ii and iii only</b> 3. <b>i and iii only</b> 4. All i, ii and iii

<p>Which according to you is the most important stakeholder from the following?</p>	<ol style="list-style-type: none"> <li>1. Entry level personnel</li> <li>2. Middle level stakeholder</li> <li>3. Managers</li> <li>4. <b>Users of the software</b></li> </ol>
<p>Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?</p>	<ol style="list-style-type: none"> <li>1. additional reference bit algorithm</li> <li>2. <b>least recently used algorithm</b></li> <li>3. first in first out algorithm</li> <li>4. counting based page replacement algorithm</li> </ol>
<p>Which class of IP address provides a maximum of only 254 host addresses per network ID?</p>	<ol style="list-style-type: none"> <li>1. Class A</li> <li>2. Class B</li> <li>3. <b>Class C</b></li> <li>4. Class D</li> </ol>
<p>Which class or interface defines the wait(), notify() and notifyAll() methods?</p>	<ol style="list-style-type: none"> <li>1. <b>Object</b></li> <li>2. Thread</li> <li>3. Runnable</li> <li>4. Class</li> </ol>
<p>Which classes allow primitive types to be accessed as objects?</p>	<ol style="list-style-type: none"> <li>1. Storage</li> <li>2. Virtual</li> <li>3. <b>Wrapper</b></li> <li>4. Friend</li> </ol>
<p>Which component performs the main or key tasks of operating system ?</p>	<ol style="list-style-type: none"> <li>1. <b>Kernel</b></li> </ol>

	2. Shell 3. File system 4. Device driver
Which constructor will initialize the base class data member?	1. derived class 2. <b>base class</b> 3. class 4. None of the mentioned
Which dynamic routing protocol uses cost as its metric?	1. <b>OSPF</b> 2. BGP 3. RIP 4. EIGRP
Which function is used to perform some action when the object is to be destroyed?	1. <b>finalize()</b> 2. delete() 3. None of the above mentioned 4. main()
Which interrupt establishes a priority over the various sources to determine which request should be entertained first ?	1. Polling 2. <b>Priority interrupt</b> 3. Daisy chaining 4. chaining
Which IPv6 address is the equivalent of the IPv4 interface loopback address 127.0.0.1?	1. 0::/10 2. 2000::/3

	<p>3. :: 4. <b>::1</b></p>
Which is a protocol that one program can use to request a service from a program of another computer on a network?	<p>1. <b>Remote Procedure Call</b> 2. I/O Virtualization 3. Memory Virtualization 4. ParaVirtualization</p>
Which is a valid declaration within an Interface?	<p>1. <b>public static short stop = 23</b> <b>onlineexam.static short stop = 23;</b> 2. protected short stop = 23; 3. transient short stop = 23; 4. final void start(short stop);</p>
Which is not a step of requirement engineering?	<p>1. Requirements elicitation 2. Requirements analysis 3. <b>Requirements design</b> 4. Requirements documentation</p>
Which is not a function of an OS?	<p>1. process Management 2. I/O Management 3. Memory Management 4. <b>Networking</b></p>
Which is not a valid state of a thread?	<p>1. running 2. <b>blocked</b> 3.</p>

1. running
2. blocked
- 3.

Which is not a valid state of a thread?	<ol style="list-style-type: none"> <li>1. running</li> <li>2. blocked</li> <li>3. <b>parsing</b></li> <li>4. None of the above</li> </ol>
Which is not a word size?	<ol style="list-style-type: none"> <li>1. 64</li> <li>2. <b>28</b></li> <li>3. 16</li> <li>4. 8</li> </ol>
Which is the first program run on a computer when the computer boots up?	<ol style="list-style-type: none"> <li>1. System software</li> <li>2. <b>Operating system</b></li> <li>3. System operations</li> <li>4. system hardware</li> </ol>
Which is used for this and known as high speed buffer exist with almost each process ?	<ol style="list-style-type: none"> <li>1. Primary</li> <li>2. Secondary</li> <li>3. <b>Cache</b></li> <li>4. RAM</li> </ol>
Which keyword is used by method to refer to the object that invoked it?	<ol style="list-style-type: none"> <li>1. import</li> <li>2. catch</li> <li>3. abstract</li> <li>4. <b>this</b></li> </ol>
Which method is used to establish priority by serially connecting all devices that request an interrupt ?	<ol style="list-style-type: none"> <li>1. Interrupt</li> <li>2. Polling</li> <li>3. Priority</li> <li>4.</li> </ol>

**Daisy chaining**

	<b>Daisy chaining</b>
Which of following is a valid class using the given code?  public interface A { public void showA(); }	<p>1. onlineexam.class B extends A { onlineexam.void showA(){} } 2. onlineexam.class B implements A { onlineexam.abstract void showA(){} } 3. onlineexam.class B implements A { void showA(){} } 4. <b>onlineexam.class B implements A { onlineexam.void showA(){} }</b></p>
Which of the following is not a Requirement Management workbench tool?	<p>1. RTM</p> <p>2. DOORS</p> <p>3. <b>Rational Suite</b></p> <p>4. RDD 100</p>
Which of the following is not a use of a CASE tool?	<p>1. Support structured analysis and design (SA/SD)</p> <p>2. Maintains the data dictionary</p> <p>3. Checks whether DFDs are balanced or not</p> <p>4. <b>It complies with the available system</b></p>
Which of the following is not a user interface design process?	<p>1. User, task, and environment analysis and modeling</p> <p>2. Interface design</p> <p>3. <b>Knowledgeable, frequent users</b></p>

	4. Interface validation
Which of the following life cycle model can be chosen if the development team has less experience on similar projects?	1. <b>Spiral</b>  2. Waterfall  3. RAD  4. Iterative Enhancement Model
Which of the following property does not correspond to a good Software Requirements Specification (SRS)?	1. Verifiable  2. Complete 3. <b>Ambiguous</b> 4. Traceable
Which of the property of software modularity is incorrect with respect to benefits software modularity?	1. Modules are robust 2. Module can use other modules 3. Modules Can be separately compiled and stored in a library. 4. <b>Modules are mostly dependent</b>
Which of the following addressing modes, facilitates access to an operand whose location is defined relative to the beginning of the data structure in which it appears?	1. ascending 2. sorting  3. <b>index</b> 4. indirect
Which of the following are loaded into main memory when the computer is booted?	1. external command instructions 2.

	<p>word processing instructions</p> <p>3.</p> <p>utility programs</p> <p>4.</p> <p><b>internal command instructions</b></p>
Which of the following command is used to create terminal connection to another host in Unix?	<p>1.</p> <p>ssh</p> <p>2.</p> <p>scp</p> <p>3.</p> <p><b>telnet</b></p> <p>4.</p> <p>None of the above</p>
Which of the following command is used to print current working directory in Unix?	<p>1.</p> <p>mkdir</p> <p>2.</p> <p><b>pwd</b></p> <p>3.</p> <p>rm</p> <p>4.</p> <p>None of the above</p>
Which of the following condition leads to deadlock?	<p>1.</p> <p><b>Hold and Wait</b></p> <p>2.</p> <p>Preemption</p> <p>3.</p> <p>Rollback</p> <p>4.</p> <p>Hold</p>
Which of the following data structures are indexed structures?	<p>1.</p> <p><b>linear arrays</b></p> <p>2.</p> <p>linked lists</p> <p>3.Array 4.Stack</p>
Which of the following device is used to connect two systems, especially if the systems use different protocols?	<p>1.</p> <p>repeater</p> <p>2.</p> <p>hub</p> <p>3.</p> <p>bridge</p> <p>4.</p> <p><b>gateway</b></p>

<p>Which of the following devices assigns IP address to devices connected to a network that uses TCP/IP?</p>	<ol style="list-style-type: none"> <li>1. <b>DHCP Server</b></li> <li>2. NIC</li> <li>3. Gateway</li> <li>4. Hub</li> </ol>
<p>Which of the following devices direct network traffic based not by MAC addresses but by software-configured network addresses?</p>	<ol style="list-style-type: none"> <li>1. <b>Router</b></li> <li>2. Hub</li> <li>3. Bridge</li> <li>4. NIC</li> </ol>
<p>Which of the following devices is a PC component that connects the computer to the network?</p>	<ol style="list-style-type: none"> <li>1. Bridge</li> <li>2. <b>NIC</b></li> <li>3. DNS Server</li> <li>4. Gateway</li> </ol>
<p>Which of the following devices modulates digital signals into analog signals that can be sent over traditional telephone lines?</p>	<ol style="list-style-type: none"> <li>1. Router</li> <li>2. Gateway</li> <li>3. Switch</li> <li>4. <b>Modem</b></li> </ol>
<p>Which of the following devices translates hostnames into IP addresses?</p>	<ol style="list-style-type: none"> <li>1. <b>DNS Server</b></li> <li>2. Hub</li> <li>3. DHCP Server</li> <li>4. Firewall</li> </ol>
<p>Which of the following DMA transfer modes and interrupt handling mechanisms will enable the highest I/O band-width?</p>	<p>1. Transparent DMA and Polling interrupts</p>

	<p>2.Cycle-stealing and Vectored interrupts</p> <p><b>3.Block transfer and Vectored interrupts</b></p> <p>4.Block transfer and Polling interrupts</p>
Which of the following holds the data currently being worked on?	<p>1. Stack pointer 2. Program Counter 3. <b>Accumulator</b> 4.Instruction Pointer</p>
Which of the following is not the required condition for binary search algorithm?	<p>1. The list must be sorted 2. there should be the direct access to the middle element in any sublist 3. <b>There must be mechanism to delete and/or insert elements in list</b> 4. none of these</p>
Which of the following is a method having same name as that of its class?	<p>1. finalize 2. delete 3. class 4. <b>constructor</b></p>
Which of the following is a scheduling algorithm that allows a process to move up and down between queues?	<p>1. Round Robin(RR) scheduling 2. first Come First Served (FCFS) scheduling 3.</p>

	<p>Multilevel feedback queue scheduling</p> <p>4.</p> <p>Shortest Job First (SJF) scheduling</p>
Which of the following is a solution to fragmentation problem?	<p>1. Thread 2. Kernel 3. <b>Paging</b> 4. Multi-programming</p>
Which of the following is a type of Semaphores?	<p>1. Binary Semaphore 2. Counting Semaphore 3. <b>Both(1) &amp; (2)</b> 4. None of the above</p>
Which of the following is an example of Batch Processing Operating Systems?	<p>1. Lynx OS 2. Mac OS 3. <b>UNIX</b> 4.windows</p>
Which of the following is an example of Cooperative MultiTasking OS?	<p>1. Lynx OS 2. <b>Mac OS</b> 3. MS DOS 4. None of the above</p>
Which of the following is an example of Real Time Operating Systems?	<p>1. <b>Lynx OS</b> 2.</p>

	Mac OS 3. UNIX 4. windows
Which of the following is correct way of importing an entire package 'pkg'?	1. import pkg. 2. Import pkg. <b>3. import pkg.*</b> 4. Import pkg.*
Which of the following is incorrect statement about packages?	1. Interfaces specifies what class must do but not how it does. 2. Interfaces are specified onlineexam.if they are to be accessed by any code in the program. 3. All variables in interface are implicitly final and static. 4. <b>All variables are static and methods are onlineexam.if interface is defined public</b>
Which of the following is major part of time taken when accessing data on the disk?	1. Settle time 2. Rotational latency 3. <b>Seek time</b> 4. Waiting time
Which of the following is multi threading model?	1. <b>many to many relationship</b> 2. many to one relationship 3. one to One relationship 4. All of the above

<p>Which of the following is not a method of the Thread class.</p>	<ol style="list-style-type: none"> <li>1. onlineexam.void exit()</li> <li>2. onlineexam.void run()</li> <li>3. onlineexam.void start()</li> <li>4. onlineexam.final int getPriority()</li> </ol>
<p>Which of the following is not a return type?</p>	<ol style="list-style-type: none"> <li>1. boolean</li> <li>2. void</li> <li>3. onlineexam./span&gt;</li> <li>4. Button</li> </ol>
<p>Which of the following is not a valid declaration of a Top level class ?</p>	<ol style="list-style-type: none"> <li>1. final onlineexam.class Test {}</li> <li>2. class \$Test{}</li> <li>3. static class Test {}</li> <li>4. onlineexam.abstract class _Test {}</li> </ol>
<p>Which of the following is not a limitation of binary search algorithm?</p>	<ol style="list-style-type: none"> <li>1. must use a sorted array</li> <li>2. requirement of sorted array is expensive when a lot of insertion and deletions are needed</li> <li>3. there must be a mechanism to access middle element directly</li> <li>4. binary search algorithm is not efficient when the data elements are more than 1000.</li> </ol>
<p>Which of the following is not an advantage of software reuse?</p>	<ol style="list-style-type: none"> <li>1. lower costs</li> <li>2.</li> </ol>

	<p>faster software development</p> <p>3.</p> <p><b>high effectiveness</b></p> <p>4.</p> <p>lower risks</p>
Which of the following is NOT an advantage of using shared, dynamically linked libraries as opposed to using statically linked libraries ?	<p>1.</p> <p>Smaller sizes of executable files</p> <p>2.</p> <p>Lesser overall page fault rate in the system</p> <p>3.</p> <p><b>Faster program startup</b></p> <p>4.</p> <p>Existing programs need not be re-linked to take advantage of newer versions of libraries</p>
Which of the following is NOT true of deadlock prevention and deadlock avoidance schemes?	<p>1.</p> <p><b>In deadlock prevention, the request for resources is always granted if the resulting state is safe</b></p> <p>2.</p> <p>In deadlock avoidance, the request for resources is always granted if the result state is safe</p> <p>3.</p> <p>Deadlock avoidance is less restrictive than deadlock prevention</p> <p>4.</p> <p>Deadlock avoidance requires knowledge of resource requirements a priori</p>
Which of the following is private IP address?	<p>1.</p> <p><b>192.168.24.43</b></p> <p>2.</p> <p>168.172.19.39</p> <p>3.</p> <p>172.15.14.36</p> <p>4.</p> <p>12.0.0.1</p>
Which of the following is standard print command in Unix?	<p>1.</p> <p>ncftp</p> <p>2.</p>

	<p><b>lpr</b></p> <p>3. ls</p> <p>4. grep</p>
Which of the following is synchronized?	<p>1. <b>Set</b></p> <p>2. LinkedList</p> <p>3. vector</p> <p>4. WeakHashMap</p>
Which of the following is the creation of a virtual rather than actual version of an operating system?	<p>1. Compression</p> <p>2. <b>Virtualization</b></p> <p>3. Synchronization</p> <p>4. Multithreading</p>
Which of the following is the least simple data structure?	<p>1. Linear array</p> <p>2. Two dimensional array</p> <p>3. Three dimensional array</p> <p>4. <b>Multi-dimensional array</b></p>
Which of the following is true?	<p>1. All objects of a class share all data members of class</p> <p>2. Objects of a class do not share non-static members. Every object has its own copy.</p> <p>3. Objects of a class do not share codes of non-static methods, they have their own copy</p> <p>4. None of these</p>

<p>Which of the following is used to denote the selection operation in relational algebra ?</p>	<p>1. Pi (Greek) 2.  Sigma (Greek) 3.  Lambda (Greek)  4. Omega (Greek)</p>
<p>Which of the following is used to remove deadlock?</p>	<p>1. <b>Preemption</b> 2. Mutual Exclusion 3.  Circular Wait  4. None of the above</p>
<p>Which of the following is/are commonly used architectural pattern(s)?</p>	<p>1. Layered Architecture 2. Model-View-Controller 3. Client-server 4. Model-View-Component</p>
<p>Which of the following is/are example(s) of stateful application layer protocols?</p> <p>(i) HTTP              (ii) FTP              (iii) TCP              (iv) POP3</p>	<p>1. <b>(ii) and (iv) only</b> 2. (i) and (ii) only 3. (ii) and (iii) only 4. (iv) only</p>
<p>Which of the following memory allocation scheme suffers from external fragmentation ?</p>	<p>1. <b>Segmentation</b> 2. swapping 3. demand Swapping 4. context switch</p>

<p>Which of the following memory management scheme loads all pages of a program from disk into main memory?</p>	<ol style="list-style-type: none"> <li>1. <b>Paging</b></li> <li>2. Demand paging</li> <li>3. Demand segmentation.</li> <li>4. Segmentation with paging</li> </ol>
<p>Which of the following network devices/systems translates data from one format to another?</p>	<ol style="list-style-type: none"> <li>1. Hub</li> <li>2. DHCP Server</li> <li>3. <b>Gateway</b></li> <li>4. NIC</li> </ol>
<p>Which of the following numerical value is invalid constant ?</p>	<ol style="list-style-type: none"> <li>1. <b>assignment operator</b></li> <li>2. relational operator</li> <li>3. logical operator</li> <li>4. bitwise shift operator</li> </ol>
<p>Which of the following operators allow to define the member functions of a class outside the class?</p>	<ol style="list-style-type: none"> <li>1. ?</li> <li>2. ?:</li> <li>3. <b>::</b></li> <li>4. ;</li> </ol>
<p>Which of the following page replacement algorithm use the technique of replace that page which is not used in the near future?</p>	<ol style="list-style-type: none"> <li>1. LFU</li> <li>2. LRU</li> <li>3. FIFO</li> <li>4. <b>OPR</b></li> </ol>
<p>Which of the following page replacement algorithms suffers from Belady's anomaly?</p>	<ol style="list-style-type: none"> <li>1. <b>FIFO</b></li> <li>2. LRU</li> </ol>

	3. <b>Optimal Page Replacement</b> 4. Both LRU and FIFO
Which of the following plays an important role in modern Operating Systems(OS)?	1. <b>Kernel</b> 2.  Shell 3. Fork 4. none
Which of the following process scheduling algorithm may lead to starvation	1. FIFO 2. Round Robin 3. <b>Shortest Job Next</b> 4. none
Which of the following scheduling algorithms provide minimum average waiting time?	1. Round Robin (RR) 2. First come First Serve (FCFS) 3. <b>Shortest Job First Scheduling</b> 4. None of the above
Which of the following service is not supported by the OS?	1. <b>Compilation</b> 2. Protection 3. I/O Operation 4. None of the above
Which of the following sorts does not use an array structure ?	1. Shell sort 2. <b>Bucket Sort</b> 3. Radix Sort 4.

	Heap Sort
Which of the following statement is true about an Interface?	<p>1. Methods inside Interface can be static, final, native or strictfp.</p> <p>2. Interface can not extend one or more other interface</p> <p>3. <b>Interface cannot implement a class.</b></p> <p>4. Interface can not be nested inside another interface.</p>
Which of the following statements are true ? I Shortest remaining time first scheduling may cause starvation II Preemptive scheduling may cause starvation III Round robin is better than FCFS in terms of response time	<p>1. I only</p> <p>2. I and III only</p> <p>3. II and III only</p> <p>4. <b>I, II and III</b></p>
Which of the following statements are true? I. Shortest remaining time first scheduling may cause starvation II. Preemptive scheduling may cause starvation III. Round robin is better than FCFS in terms of response time	<p>1. I only</p> <p>2. I and III only</p> <p>3. II and III only</p> <p>4. <b>I, II and III</b></p>
Which of the following statements is false ?	<p>1. Virtual memory implements the translation of a program's address space into physical memory address space.</p> <p>2. Virtual memory increases the degree of multi-programming</p> <p>3. Virtual memory allows each program to exceed the size of the primary memory.</p> <p>4.</p>

	<p>Virtual memory reduces the context switching overhead.</p>
Which of the following systems software does the job of merging the records from two files into one?	<p>1. Security software 2. Networking software 3. Documentation system 4. <b>Utility program</b></p>
Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?	<p>1. <b>SMTP</b> 2. SNMP 3. FTP 4. RPC</p>
Which of the following will determine your choice of systems software for your computer?	<p>1. Is the applications software you want to use compatible with it ? 2. Is it expensive ? 3. Is it compatible with your hardware ? 4. <b>Both 1 and 3</b></p>
Which of the methods should be implemented if any class implements the Runnable interface?	<p>1. start() 2. <b>run()</b> 3. wait() 4. notify() and notifyAll()</p>
Which of the statement is false about an abstract class?	<p>1. An abstract class is a class that contains one or more abstract methods. 2. <b>An abstract class cannot have normal method.</b> 3.</p>

	<p>An abstract class cannot be instantiated.</p> <p>4.</p> <p>An abstract class can be extended.</p>
Which of these cannot be declared static?	<p>1. class 2. variable 3. object 4. <b>method</b></p>
Which of these interface is not a part of Java's collection framework?	<p>1. List 2. <b>Set</b> 3. SortedMap 4. SortedList</p>
Which of these is a mechanism for naming and visibility control of a class and its content?	<p>1. Object 2. <b>Packages</b> 3. Interfaces 4. None of the Mentioned.</p>
Which of these is an example of a virtual resource?	<p>1. Virtual machine 2. Print server 3. Virtual memory 4. <b>Scanner</b></p>
Which of these is not a term describing the collection of Operating Programs	<p>1. Monitor 2. Kernel 3. Supervisor 4.</p>

	<b>server</b>
Which of these is used to access member of class before object of that class is created?	1.onlineexam.p> 2. <b>static</b> 3. <b>private</b> 4. <b>protected</b>
Which of these methods can randomize all elements in a list?	1. <b>rand()</b> 2. <b>randomize()</b> 3. <b>shuffle()</b> 4. <b>ambiguous()</b>
Which one of the following is not a step of requirement engineering?	1. <b>elicitation</b> 2. <b>design</b> 3. <b>analysis</b> 4. <b>documentation</b>
Which one of the following is a Class C IP address?	1. 10.10.14.118 2. 191.200.199.199 3. 135.23.112.57 4. <b>204.67.118.54</b>
Which one of the following is the address generated by CPU?	1.physical address 2.absolute address <b>3.logical address</b> 4.Main memory address

<p>Which one of the following protocols is NOT used to resolve one form of address to another one?</p>	<ol style="list-style-type: none"> <li>1. ARP</li> <li>2. <b>DHCP</b></li> <li>3. DNS</li> <li>4. RARP</li> </ol>
<p>Which one of the following scheduler controls the degree of multiprogramming?</p>	<ol style="list-style-type: none"> <li>1. Short Term Scheduler</li> <li>2. <b>Long Term Scheduler</b></li> <li>3. Medium Term Scheduler</li> <li>4. Average Term Scheduler</li> </ol>
<p>Which operator is used to check object-type at runtime?</p>	<ol style="list-style-type: none"> <li>1. ternary operator</li> <li>2. <b>instanceof operator</b></li> <li>3. type operator</li> <li>4. length operator</li> </ol>
<p>Which OS employs the techniques of fault tolerance and graceful degradation to ensure continuity of operation?</p>	<ol style="list-style-type: none"> <li>1. Batch Processing</li> <li>2. Multi-processor</li> <li>3. <b>Distributed</b></li> <li>4. Time sharing</li> </ol>
<p>Which protocol working at the Transport layer provides a connectionless service between hosts?</p>	<ol style="list-style-type: none"> <li>1. ARP</li> <li>2. TCP</li> <li>3. IP</li> <li>4. <b>UDP</b></li> </ol>
<p>Which register can interact with the secondary storage</p>	<ol style="list-style-type: none"> <li>1. PC</li> </ol>

	2. <b>MAR</b> 3. MDR 4. IR
Which statement BEST describes the operation of a negative-edge-triggered D flip-flop?	1. <b>The logic level at the D input is transferred to Q on NGT of CLK.</b> 2. The Q output is ALWAYS identical to the CLK input if the D input is HIGH. 3. The Q output is ALWAYS identical to the D input when CLK = PGT. 4. The Q output is ALWAYS identical to the D input.
Which technique helps processor to run a program concurrently with input output operations ?	1. IOP 2. DMA 3. <b>Interrupt driven I/O</b> 4. DCA
Which two methods you need to implement to use an Object as key in HashMap?	1. push() and pop() 2. get() and set() 3. <b>equals() and hashCode()</b> 4. put() and get()
Which two models doesn't allow defining requirements early in the cycle?	1. Waterfall & RAD  2. <b>Prototyping &amp; Spiral</b> 3. Prototyping & RAD

	4. Waterfall & Spiral
Which type of scheduler is used in batch systems?	1. Medium Term Scheduler 2. Short Term Scheduler 3. <b>Long Term Scheduler</b> 4. None of the above
Which type of scheduler typically uses a FIFO or Priority queue?	1. <b>Short Term Scheduler</b> 2. Medium Term Scheduler 3. Long Term Scheduler 4. Job Scheduler
Who is considered as the creator of JAVA ?	1. Dennis Richie 2. Ken Thompson 3. <b>James Gosling</b> 4. Bjarne Stroustrup
Why we need to have secondary storage ?	1. <b>Store large volume of data that exceed the capacity of main memory</b> 2. Perform arithmetic and logical operations 3. To give power to the system too 4. To help processor in processing
Wire introduces delay of	1. 1 ns 2. 2 ns 3. 3 ns

	4. 4 ns
With relocation and limit registers, each logical address must be _____ the limit register.	1. <b>less than</b> 2. greater than 3. equal to 4. twice of
Write Through technique is used in which memory for updating the data	1. Virtual memory 2. Main memory 3. Auxiliary memory 4. <b>Cache memory</b>
$x+x'y=$	1. x 2. y 3. $x-y$ 4. <b><math>x+y</math></b>
$x+xy=x$ is known as	1. inverse law 2. commutative law 3. distributive law 4. <b>absorption law</b>
$X+y=z$ represents operation that is	1. AND 2. OR 3. NOT 4.XOR
$X=1010100$ and $Y=1000011$ using 1's complement $Y-X$ is	1. -10111

	<p>2. -10011 3. <b>-10001</b> 4. -11001</p>
X=1010100 and Y=1000011 using 2's complement X-Y is	<p>1. 10111 2. 101101 3. 10011 4. <b>10001</b></p>
You can import only static members of a class present in some other package using _____?	<p>1. import keyword 2. <b>import static keyword</b> 3. package keyword 4. static import keyword</p>
You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server?	<p>1. 1 Mbps 2. 100 kbps 3. <b>10 Mbps</b> 4. 2 Mbps</p>
You have an IP of 156.233.42.56 with a subnet mask of 7 bits. How many hosts and subnets are possible assuming that subnet 0 is not used?	<p>1. 126 subnets and 510 hosts 2. <b>128 subnets and 512 hosts</b> 3. 510 subnets and 126 hosts 4. 512 subnets and 128 hosts</p>
You have been assigned a network ID of 172.16.0.0/26. If you utilize the first network resulting from this ID, what would be the last legitimate host address in this subnet?	<p>1. 172.16.0.65 2. <b>172.16.0.62</b> 3. 172.16.0.63</p>

	4. 172.16.0.64
'Aging registers' are	1. Counters which indicate how long ago their associated pages have been referenced. ( 2. Registers which keep track of when the program was last accessed. 3. Counters to keep track of last accessed instruction. 4. Counters to keep track of the latest data structures referred.
..... commands are automatically loaded into main memory when the booting process gets completed.	1. External 2. <b>Internal</b> 3. Both Internal & external 4. Not internal & not external
..... is a system call that causes the caller to block.	1. Await 2. <b>sleep</b> 3. Wakeup 4. None of the above
..... occur commonly in multitasking when two or more threads waiting for each other.	1. Kernel 2. Shell 3. Fork 4. <b>Deadlock</b>
..... process checks to ensure the components of the computer are operating and connected properly.	1. Editing 2.

	Saving 3. <b>Booting</b> 4. None of the above
..... holds the address of the next instruction to be executed?	1. Accumulator 2. Stack Pointer 3.  Status Register  4. <b>Program Counter</b>
..... is a special system software that is used to handle process scheduling in different ways.	1. Spawn 2. <b>Scheduler</b> 3. fork  4. none
..... is a system call that runs an executable file into an existing process.	1. fork 2. wait 3. <b>exec</b> 4. None of the above
..... is a technique used to speed up communication with slow devices.	1. Fragmentation 2. <b>Caching</b> 3. Segmentation 4. paging
..... is a way of processing data serially.	1. <b>spooling</b> 2. Paging

	3. caching 4. segmentation
..... is mainly responsible for allocating the resources as per process requirement?	1. Software 2. RAM  3. <b>Operating Systems</b> 4. Compiler
..... is mainly responsible for allocating the resources as per process requirement?	1. Software 2. RAM 3. <b>Operating Systems</b> 4. Compiler
..... is the process of switching of CPU from one thread to another.	1. Process handling 2. interrupt handling 3. <b>Context switching</b> 4. none
..... is the smallest unit for processing that consists of a program counter, a stack & a set of registers.	1. Compiler 2. <b>Thread</b> 3. Heap 4. Stack
..... occurs in a dynamic memory allocation system when most of the free blocks are too small to satisfy any request?	1. Paging 2. Segmentation 3. <b>Fragmentation</b>

	4. none
..... provides an Interface between the process and the Operating System	1. Synchronization 2. <b>System call</b> 3. Segmentation 4. None of the above
..... are required to complete a critical task within a guaranteed amount of time.	1. <b>Real Time Operating Systems</b> 2.  Multi Tasking Operating Systems 3. Distributed Operating Systems 4. None of the above
..... is a classic synchronization problem that involves the allocation of limited resources amongst a group of processes in a deadlock free and starvation free manner.	1. Bounded Buffer Problem 2. <b>Dining Philosophers Problem</b> 3. Readers Writers Problem 4. None of the above
..... is a system call that returns the process ID of current process.	1. getpid 2.  wait 3. <b>getppid</b> 4. None of the above
..... is a system call that returns the process ID of the parent of the current process.	1. getpid 2.  wait 3.

	<p>getppid</p> <p>4. None of the above</p>
.....files represent physical devices like printers, terminals etc.,	<p>1. Ordinary files 2. Directory files 3. <b>Special files</b> 4. None of the above</p>
..... is a system call of OS that is used to create a new process?	<p>1. Shell 2. Kernel 3. <b>Fork</b> 4. Thread</p>