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Algorithm & Data Structure Question Bank eDAC Sept 21

Q1. Linked link are not superior to STL vectors

a) True b) False

Q2. Deleting a node in a linked list is a simple matter of using the delete operator to free the node's memory

a) True b) False

Q3. The advantage of link list over array is

a) Link list can grow and shrink in size during the time

b) Less space is required for storing elements

c) Both 1 and 2 are correct

d) None of the above

Q4. Which one of the following algorithm is NOT an example of Divide and conquer technique

a) Quick Sort b) Merge Sort **c) Bubble Sort** d) Binary Search

Q5. The inorder traversal of some binary tree produces the sequence DBEAFC, and the postorder transversal of the same tree produced the sequence DEBFCA. Which of the following is correct preorder transversal sequence?

a) DBAECF b) ABEDFC **c) ABDECF** d) None of the above

Q6. How many cycles should be contained in a tree?

a) 0 b) At least 1 c) Any number d) None of the above

Q7. If graph G has no edges then corresponding adjacency matrix is

a) Unit matrix b) Zero matrix c) Matrix with all 1's **d) None of the above**

Q8. What is not true for linear collision processing?

a) It is easier to program b) It may include more collision

c) It requires space for links **d) All are true**

Q9. Algorithms can be represented in various ways EXCEPT

a) PROGRAMS b) FLOWCHARTS c) DECISION CHARTS **d) SPREADSHEET**

Q10. The element at the root of heap is

a) Largest **b) Depending on type of heap it may be smallest or largest**

c) Smallest d) None of the above

Q11. The end at which a new element gets added to queue is called

a) Front b) Rear c) Top **d) Bottom**

Q12.Stack can be represented using

a) Arrays **b) Arrays or linked list** c) Only linked list d) None of the above

Q13. A graph is said to be a tree, if it satisfies which of the properties: **a) If it is connected and there are no cycles in the graph.**

a) If it is not connected and there are cycles in the graph

b) If it connected and there are cycles in the graph

c) None of the above

Q14. Hashing refers to the process of deriving

a) A record key from storage address **b) Storage address from a record key**

c) A floating-point code from a record key d) None of the above

Q15. The inorder traversal of some binary tree produces the sequence DBEAFC, and the postorder traversal of the same tree produced the sequence DEBFCA. Which of the following is a correct preorder traversal sequence?

a) DBAECF b) ABEDFC **c) ABDECF** d) None of the above

Q16. Which of the following is not an operation of queue, assuming that queue has items `Q` and `X`?

a) empty(Q) b) deque(Q,X) c) enque(Q,X) **d) push(Q,X)**

Q17. In an adjacency matrix parallel edges are given by

a) Similar columns b) Similar rows c) Not representable d) None of the above

Q18. A dynamic data structure where we can search for desired records in O(log2n) time is

a) heap b) binary search tree c) circularly linked list d) array

Q19. We can efficiently reverse a string using a

a) linear queue b) circular queue **c) Stack** d) doubly linked list

Q20. The five items: A, B, C, D and E are pushed in a stack, one after the other starting from A. The stack is popped four times and each element is inserted in a queue. Then two elements are deleted from the queue and pushed back on the stack. Now one item is popped from the stack. The popped item is.

a) A b) B c) C **d) D**

Q21. The memory address of the first element of an array is called

a. floor address b. foundation address c. first address **d. base address**

Q22. The memory address of fifth element of an array can be calculated by the formula

a. LOC(Array[5]=Base(Array)+w(5-lower bound), where w is the number of words per memory cell for the array

b. LOC(Array[5])=Base(Array[5])+(5-lower bound), where w is the number of words per memory cell for the array

c. LOC(Array[5])=Base(Array[4])+(5-Upper bound), where w is the number of words per memory cell for the array

d. None of above

Q23. Which of the following data structures are indexed structures?

a) **linear arrays** b) linked lists c) both of above d) none of above

Q24. Which of the following is not the required condition for binary search algorithm? a) The list must be sorted

b) there should be the direct access to the middle element in any sublist

c) **There must be mechanism to delete and/or insert elements in list** d) none of above

Q25. Which of the following is not a limitation of binary search algorithm?

a) must use a sorted array

b) requirement of sorted array is expensive when a lot of insertion and deletions are needed

c) there must be a mechanism to access middle element directly

d) **binary search algorithm is not efficient when the data elements are more than 1000.**

Q26. Two dimensional arrays are also called

a) tables arrays b) matrix arrays **c) both of above** d) none of above

Q27. A variable P is called pointer if

a) **P contains the address of an element in DATA.**

b) P points to the address of first element in DATA

c) P can store only memory addresses

d) P contain the DATA and the address of DATA

Q28. Which of the following data structure can't store the non-homogeneous data elements?

a) Arrays b) Records c) Pointers d) None

Q29. Before deleting an element from list we make sure that

a) it is an list b) it is not a invalid list c) **it is not an empty list** d) it must be full.

Q30. Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called

a) Elementary items b) atoms c) scalars **d) all of above**

Q31. The difference between linear array and a record is

a) An array is suitable for homogeneous data but the data items in a record may have different data type

b) In a record, there may not be a natural ordering in opposed to linear array.

c) A record form a hierarchical structure but a linear array does not

d) **All of above**

Q32. Which of the following statement is false?

a) Arrays are dense lists and static data structure

b) data elements in linked list need not be stored in adjecent space in memory

c) **pointers store the next data element of a list**

d) linked lists are collection of the nodes that contain information part and next pointer

Q33. Binary search algorithm cannot be applied to

a) sorted linked list b) sorted binary trees c) sorted linear array d) pointer array

Q34. When new data are to be inserted into a data structure, but there is no available space; this situation is usually called

a) underflow **b) overflow** c) housefull d) saturated

Q35. The situation when in a linked list START=NULL is

a) underflow b) overflow c) housefull d) saturated

Q36. Which of the following name does not relate to stacks?

a) FIFO lists b) LIFO list c) Piles d) Push-down lists

Q37. Which of the following is two way list?

a) grounded header list b) circular header list

c) linked list with header and trailer nodes **d) none of above**

Q38. The term "push" and "pop" is related to the

a) array b) lists **c) stacks** d) all of above

Q39. A data structure where elements can be added or removed at either end but not in the middle

a) Linked lists b) Stacks c) Queues **d) Deque**

Q40. When inorder traversing a tree resulted E A C K F H D B G; the preorder traversal would return

a) FAEKCDBHG **b) FAEKCDHGB** c) EAFKHDCBG d) FEAKDCHBG

Q41. Which data structure allows deleting data elements from front and inserting at rear? a) Stacks **b) Queues** c) Deques d) Binary search tree

Q42. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.
a) Input-restricted deque b) Output-restricted deque c) Priority queues d) None of above

Q43. Which of the following data structure is non-linear type?
a) Strings b) Lists c) Stacks **d) None of above**

Q44. Which of the following data structure is linear type?
a) Strings b) Lists c) Queues **d) All of above**

Q45. To represent hierarchical relationship between elements, which data structure is suitable?
a) Deque b) Priority **c) Tree** d) All of above

Q46. A binary tree whose every node has either zero or two children is called
a) Complete binary tree b) Binary search tree **c) Extended binary tree** d) None of above

Q47. The depth of a complete binary tree is given by
a) Dn = n log2n b) Dn = n log2n+1 c) Dn = log2n **d) Dn = log2n+1**

Q48. When representing any algebraic expression E which uses only binary operations in a 2-tree, **a) the variable in E will appear as external nodes and operations in internal nodes**
b) the operations in E will appear as external nodes and variables in internal nodes
c) the variables and operations in E will appear only in internal nodes
d) the variables and operations in E will appear only in external nodes

Q49. A binary tree can easily be converted into q 2-tree
a) by replacing each empty sub tree by a new internal node
b) by inserting an internal nodes for non-empty node
c) by inserting an external nodes for non-empty node
d) **by replacing each empty sub tree by a new external node**

Q50. When converting binary tree into extended binary tree, all the original nodes in binary tree are
a) internal nodes on extended tree b) external nodes on extended tree
c) vanished on extended tree d) None of above

Q51. The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal
a) ABFCDE b) ADBFEC **c) ABDECF** d) ABDCEF

Q52. Which of the following sorting algorithm is of divide-and-conquer type?
a) Bubble sort b) Insertion sort **c) Quick sort** d) All of above

Q53. An algorithm that calls itself directly or indirectly is known as
a) Sub algorithm **b) Recursion** c) Polish notation d) Traversal algorithm

Q54. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called
a) Leaf b) branch c) path **d) thread**

Q55. The in order traversal of tree will yield a sorted listing of elements of tree in
a) Binary trees **b) Binary search trees** c) Heaps d) None of above

Q56. In a Heap tree
a) Values in a node is greater than every value in left sub tree and smaller than right sub tree
b) **Values in a node is greater than every value in children of it**
c) Both of above conditions applies
d) None of above conditions applies

Q57. In a graph if e=[u, v], Then u and v are called
a) endpoints of e b) adjacent nodes c) neighbors **d) all of above**

Q58. A connected graph T without any cycles is called
a) a tree graph b) free tree c) a tree **d) All of above**

Q59. In a graph if e=(u, v) means
a) u is adjacent to v but v is not adjacent to u b) e begins at u and ends at v
c) u is processor and v is successor **d) both b and c**

Q60. If every node u in G is adjacent to every other node v in G, A graph is said to be
a) isolated **b)complete** c) finite d) strongly connected

Q61. Two main measures for the efficiency of an algorithm are
a) Processor and memory b) Complexity and capacity **c) Time and space** d) Data and space

Q62. The time factor when determining the efficiency of algorithm is measured by
a) Counting microseconds **b) Counting the number of key operations**
c) Counting the number of statements d) Counting the kilobytes of algorithm

Q63. The space factor when determining the efficiency of algorithm is measured by

a) Counting the maximum memory needed by the algorithm

b) Counting the minimum memory needed by the algorithm

c) Counting the average memory needed by the algorithm

d) Counting the maximum disk space needed by the algorithm

Q64. Which of the following case does not exist in complexity theory

a) Best case b) Worst case c) Average case **d) Null case**

Q65. The Worst case occur in linear search algorithm when a) Item is somewhere in the middle of the array

b) Item is not in the array at all

c) Item is the last element in the array

d) **Item is the last element in the array or is not there at all**

Q66. The Average case occur in linear search algorithm

a) When Item is somewhere in the middle of the array

b) When Item is not in the array at all

c) When Item is the last element in the array

d) When Item is the last element in the array or is not there at all

Q67. The complexity of the average case of an algorithm is

a) **Much more complicated to analyze than that of worst case**

b) Much more simpler to analyze than that of worst case

c) Sometimes more complicated and some other times simpler than that of worst case d) None or above

Q68. The complexity of linear search algorithm is

a) O(n) b) O(log n) c) O(n2) d) O(n log n)

Q69. The complexity of Binary search algorithm is

a) O(n) **b) O(log)** c) O(n2) d) O(n log n)

Q70. The complexity of Bubble sort algorithm is

a) O(n) b) O(log n) **c) O(n2)** d) O(n log n)

Q71. The complexity of merge sort algorithm is

a) O(n) b) O(log n) c) O(n2) **d) O(n log n)**

Q72. The indirect change of the values of a variable in one module by another module is called
a) internal change b) inter-module change **c) side effect** d) side-module update

Q73. Which of the following data structure is not linear data structure?
a) Arrays b) Linked lists c) Both of above **d) None of above**

Q74. Which of the following data structure is linear data structure?
a) Trees b) Graphs **c) Arrays** d) None of above

Q75. The operation of processing each element in the list is known as
a) Sorting b) Merging c) Inserting **d) Traversal**

Q76.Finding the location of the element with a given value is
a) Traversal **b) Search** c) Sort d) None of above

Q77. Arrays are best data structures
a) **for relatively permanent collections of data**
b) for the size of the structure and the data in the structure are constantly changing c) for both of above situation
d) for none of above situation

Q78. Linked lists are best suited
a) for relatively permanent collections of data
b) **for the size of the structure and the data in the structure are constantly changing** c) for both of above situation
d) for none of above situation

Q80. Each array declaration need not give, implicitly or explicitly, the information about
a) the name of array b) the data type of array
c) the first data from the set to be stored d) the index set of the array

Q81. The elements of an array are stored successively in memory cells because
a) by this way computer can keep track only the address of the first element and the addresses of other
elements can be calculated
b) the architecture of computer memory does not allow arrays to store other than serially c) **both of above**
d) none of above

Q82. When is a linear queue said to be empty?
a) front > rear b) front = = - 1 c) front > rear + 1 **d) rear = = front + 1**

Q83. Which of the following statement is true regarding stacks and queue?
i) In sequential representation, stack is logically as well as physically full
ii) Linear queue result in memory wastage as reuse of memory is not allowed.
iii) A Queue-full condition for a circular queue is 'rear=front + 1' **a) i & ii** b) i & iii c) ii & iii d) All.

Q84. Queue-full condition for the circular queue represented sequentially is?
a) front = = rear b) rear + 1 + front c) (rear+1)%arraysize = = front **d) None of the these**

Q85. In a linked representation a node consists of which of the following fields?
a) Data, link, header b) Only link field c) Only data field **d) Data and link fields.**

Q86. In case of a linked list
a) Arrays are used to hold the list **b) Every linked node has a link to the next node**
c) Links have a array of pointer to the next link. d) All of the above Q87.

Q88. Which of the following is not true regarding a singly linked list? a) Nodes are linked in one direction
b) The last node is pointing to NULL indicating the end of list
c) Searching for a node always starts at the first node and traverses through every subsequent nodes d) **Address of the list is the address of the node**

Q89. The header of main function which takes command line arguments looks like _____
a) Int main(int argc, char *argv) b) Int main(char *argv, int argc)
c) Int main(int argc, char *argv[]) d) Int main(char *argv[],int argc)

Q90. Using which macro, we can display the argument from variable number of argument function?
a) va_arg b) va_list c) va_show d) va_start

Q91. what will be the output of the following program?

```
#include <stdio.h>
Int main()
{
        float arr[]={12.5,5.4,7.3,21.6,8.7};
```

```
        printf("%d\n",sizeof(arr)/sizeof(arr[0]));
        return 0;
}
```

a) 4 **b) 5** c) 8 d) 20

Q92. What is the output of the following program?

```
Int main()
{
        Int j,sum;
        for( j=1, sum=0; j<5; j++)
        sum+=j;
 sum=j;         cout<<sum;
                return 0;
}
```

a) 5 b) 10 c) Compilation error: undefined variable sum and j d) 6

Q93. A program P reads in 500 integers in the range [0 to 100] representing the score of 500 students. It then prints the frequency of each score above 50. What would be the best way for P to store the frequencies? a) An array of 50 numbers b) An array of 100 numbers
c) An array of 500 numbers d) A dynamically allocated array of 550 numbers

Q94. Which is true about reference variable?

a) A reference can never be null
b) A reference once established cannot be changed
c) Reference doesn't need an explicit dereferencing mechanism.
d) **All of the above.**

Q95. Dynamic objects are stored in

a) Code segment b) Data segment **c) Heap** d) Run time stack

Q96. What is the output of the following code? const

```
int a=124;
void main()
{
        const int* Sample();
 int *p;    p=Sample();
        cout<<*p;
}
const  int* Sample()
```

```
{
        return (&a);
}
```

a) Warning **b) compilation error** c) output : 124 d) garbage value

Q97. What is the size of pointer in C++ on 32 bit architecture?

a) 1 b) 2 **c) 4** d) It depends on size of the datatype of a variable to which pointer is pointing to

Q98. Which are the main three features of OOP language?

a) Data Encapsulation, Inheritance and Exception handling

b) Inheritance , polymorphism and exception handling

c) **Data encapsulation, inheritance and polymorphism**

d) Overloading, inheritance and polymorphism

Q99. Which out of the given function types cannot be declared "virtual"?

a) Normal member functions **b) Constructor** c) Destructor d) None of the above

Q100. Read the code carefully

```
class Base
{
 private:  int I;  protected:  int j;
        public:        int k;
};
class Derived:public Base
{
 private:  int x;  protected:  int y;
        public:        int  z;
};
```

sizeof(Base)= _____ bytes , sizeof(Derived) _____ bytes on a 32 bit architecture.

a)12 , 12 b) 12 , 16 **c) 12, 24** d) 4 , 16

Q101. Static_cast can be applied at _____

a) Compile time b) runtime c) linking time d) both a and b

Q102. Which inheritance type is used in the class given below? Class A:
public B: public C

```
{
}
```

a) multi-level **b) multiple** c) hybrid d) hierarchical

Q103. Which of the following operators cannot be overloaded?
a) [] b) -> c) ?: d) *

Q104. Which of the following STL Container will store the elements in adjacent memory locations?
a) Vector b) list c) set d) map

Q105. Which of the following statement is incorrect regarding inline functions?
a) It speeds up execution **b) It slows down execution**
c) It increases the code size d) A function can be inline without inline specifier.

Q106. Which of the following is not a member of class?
a) Static function **b) friend function** c) constructor d) virtual function

Q107. In which operator overloading, compiler implicitly passes a dummy integer as an argument?
a) Post increment / decrement operator b) Pre increment / decrement operator
c) Both the above d) None of the above

Q108. Which of the following is correct statement regarding abstract class?
a) Abstract class object can't be created b) Pointer to abstract class can be created
c) Reference to abstract class can be created **d) All of the above**

Q109. During inheritance which of the following is not inherited?
a) Friend function b) Constructor c) Overloaded = operator **d) All of the above**

Q110. What is the output of the following program? class myclass

```
{
        public:
                static int counter;
};
void main()
{
                        cout<<myclass::counter;  }
```

a) Output 0 b) Compilation error **c) Linking error** d) Output garbage value

Q111. What is the primary purpose of template function?

a) **To allow a single function to be used with varying types of arguments**

b) To hide the name of the function from the linker (preventing duplicate symbols)

c) To improve execution speed of the program

d) To enable better debugging

Q112. Which of the following data structure may give overflow error, even though the current number of element in it is less than its size?
a) Simple queue b) Circular queue c) Primary queue d) Stack

Q113. The most appropriate matching for the following pairs:

a)	Bubble sort	1) O(nlog(n))
b)	Insertion sort	2) O(n)
c)	Quick sort	3) O(n^2)

a) a=1 b=2 c=3 b) a=3 b=1 c=2 c) a=3 b=2 c=1 d) a=2 b=3 c=1

Q114. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called _____
a) root b) node c) branch d) thread

Q115. a binary search tree whose left subtree and right subtree differ in height by at most one unit is called.
a) AVL tree b) Red-black tree c) Lemma tree d) None of the above

Q116. _____ algorithm is not an example of divide and conquer rule.
a) Quick sort b) bubble sort c) merge sort d) binary search

Q117. Which of the following stack operations could result in stack underflow?
a) Push b) pop c) is_full d) none of the above

Q118. Which of the following sorting algorithm has the worst time complexity of nlog(n)?
a) Heap sort b) Insertion sort c) Selection sort d) Bucket sort

Q119. The number of binary trees with 3 nodes which when traversed in post order gives the sequence A, B , C is
a) 3 b) 5 c) 7 d) 9

Q120. A binary tree that has n leaf nodes, all at same level. The number of non-leaf nodes in such tree is
a) n-1 b) log(n) c) 2n d) 2n-1

Q121. Queue can be used to implement
a) Recursion b) Breadth- first search c) Depth – first search d) None of these

Q122. Which design pattern is used in Exception handling mechanism?

a) Chain of responsibility b) Interpreter pattern
c) Builder pattern d) Adapter pattern

Q123. Which design pattern you would use to limit the class instantiation to one object? a) Factory method design pattern b) Builder design pattern
c) Prototype design pattern **d) Singleton design pattern**

Q124. The object which outlives the program execution time and exists between executions of the program is known as_____
a) Global object **b) persistent object** c) transient object d) delegate object

Q125. Which design pattern you would use to translate an existing class interface into a compatible target interface?
a) Proxy design pattern **b) Adapter design pattern**
c) Façade design pattern d) Bridge design pattern

Q126. The adapter, bridge and composite design patterns are examples of _____ a) Creational pattern **b) Structural pattern**
c) Behavioral pattern d) Interaction pattern

Q127. Communication diagram, sequence diagram and timing diagram can all be categorized as _____
a) Behavior diagram b) Structure diagram c) Activity diagram d) Interaction diagram

Q128. Linked link are not superior to STL vectors **a) True** b) False

Q129. Deleting a node in a linked list is a simple matter of using the delete operator to free the node's memory
a) True b) False

Q130. The advantage of link list over array is
a) **Link list can grow and shrink in size during the time**
b) Less space is required for storing elements
c) Both 1 and 2 are correct
d) None of the above

Q131. Which one of the following algorithm is NOT an example of Divide and conquer technique
a) Quick Sort b) Merge Sort **c) Bubble Sort** d) Binary Search

Q132. The inorder traversal of some binary tree produces the sequence DBEAFC, and the postorder transversal of the same tree produced the sequence DEBFCA. Which of the following is correct preorder transversal sequence?
a) DBAECF b) ABEDFC **c) ABDECF** d) None of the above

Q133. How many cycles should be contained in a tree?
a) 0 b) at least 1 c) any number d) None of the above

Q134. If graph G has no edges then corresponding adjacency matrix is
a) unit matrix **b) zero matrix** c) matrix with all 1's d) None of the above

Q135. What is not true for linear collision processing?
a) It is easier to program b) It may include more collision
c) It requires space for links **d) All are true**

Q136. In an adjacency matrix parallel edges are given by
a) Similar columns b) Similar rows c) Not representable d) None of the above

Q137. The element at the root of heap is a) Largest
b) Smallest
c) **Depending on type of heap it may be smallest or largest**
d) None of the above

Q138. The end at which a new element gets added to queue is called
a) Front **b) Rear** c) Top d) Bottom

Q139. If we traverse a following tree in Pre order then what will be traversal
a) ABDGCEHIF b) ABDGHEICF c) ABDGFCIEH d) None of the above

Q140. A graph is said to be a tree, if it satisfies which of the properties
a) **If it is connected and there are no cycles in the graph.**
b) If it is not connected and there are cycles in the graph
c) If it connected and there are cycles in the graph
d) None of the above

Q141. Hashing refers to the process of deriving
a) A record key from storage address **b) Storage address from a record key**
c) A floating-point code from a record key d) None of the above

Q142. The inorder traversal of some binary tree produces the sequence DBEAFC, and the postorder traversal of the same tree produced the sequence DEBFCA. Which of the following is a correct preorder traversal sequence?
a) DBAECF b) ABEDFC c) ABDECF d) None of the above

Q143. What is not true for linear collision processing?
a) It is easier to program b) It may include more collision
c) It requires space for links **d) All are true**

Q144. In an adjacency matrix parallel edges are given by
a) Similar columns b) Similar rows c) Not representable d) None of the above

Q145. What is the output of the following program?

```
#include<iostream> using namespace
std; enum
test
{
        A=32,  B  , C;
};
int main()
{
        cout<<A<<","<<B<<","<<C;
        return 0;
}
```

a) 32 , 32 , 32 **b) 32 ,33 , 34** c) 32, 31 , 30 d) None of the above

Q146. A dynamic data structure where we can search for desired records in O(log2n) time is
a) heap b) binary search tree c) circularly linked list d) array

Q147. We can efficiently reverse a string using a
a) linear queue b) circular queue **c) stack** d) doubly linked list

Q148. Deleting a node in a linked list is a simple matter of using the delete operator to free the node's memory.
a) True b) False

Q149. The inorder traversal of some binary tree produces the sequence DBEAFC, and the postorder traversal of the same tree produced the sequence DEBFCA. Which of the following is a correct preorder traversal sequence?
a) DBAECF b) ABEDFC **c) ABDECF** d) None of the above

Q150. What is not true for linear collision processing?
a) It is easier to program b) It may include more collision

c) It requires space for links **d) All are true**

Q151. In an adjacency matrix parallel edges are given by
a) Similar columns b) Similar rows c) Not representable d) None of the above

Q152. Suppose the numbers 6, 4, 2,9,5,7,0,3,1 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 inorder traversal sequence of the resultant tree?
Select one:
a) 7 9 6 1 0 3 2 5 4 b) 1 0 3 2 5 4 7 9 6 c) 7 9 0 1 2 3 4 5 6 d) 0 1 2 3 4 5 6 7 9

Q153. Two main measures for the efficiency of an algorithm are
a) Data and space. b) Processor and memory
c) Complexity and capacity **d) Time and space**

Q154. The complexity of the average case of an algorithm is
a) **Much more complicated to analyze than that of worst case**
b) Much more simpler to analyze than that of worst case
c) Sometimes more complicated and some other times simpler than that of worst case d) None or above

Q155. The time factor when determining the efficiency of algorithm is measured by
a) Counting microseconds **b) Counting the number of key operations,**
c) Counting the number of statements d) Counting the kilobytes of algorithm

Q156. The space factor when determining the efficiency of algorithm is measured by
a) **Counting the maximum memory needed by the algorithm**
b) Counting the minimum memory needed by the algorithm
c) Counting the average memory needed by the algorithm
d) Counting the maximum disk space needed by the algorithm

Q157. Which of the following case does not exist in complexity theory
a) Best case b) Worst case c) Average case **d) Null case**

Q158. The running time of insertion sort is
a) O(n log n) b) O(log n) c) O(n) **d) O(n^2)**

Q159. Which of the following sorting procedure is the slowest?
a) Quick sort b) Merge sort **c) Bubble sort** d) Heap sort

Q160. The correct order of the efficiency of the following sorting algorithms according to their overall running time comparisons is

a) bubble>selection>insertion **b) Insertion>selection>bubble**
c) Merge=Quick=Heap d) none above

Q161. A sort which iteratively passes through a list to exchange the first element with any element less than it and then repeats with a new first element is called

a) quick sort **b) selection sort**

Q162. The way a card game player arranges his cards as he picks them one by one can be compared to

a) Quick sort **b) Insertion sort** c) Selection sort d) Merge sort

Q163. Which among the following is the best when the list is already sorted

a) Merge sort b) Quick sort **c) Insertion sort** d) Selection sort

Q164. Which of the following sorting algorithm is of divide-and-conquer type?

a) Bubble sort b) Insertion sort **c) Quick sort** d) All of above

Q165. An algorithm that calls itself directly or indirectly is known as

a) Sub algorithm **b) Recursion** c) Polish notation d) Traversal algorithm

Q166. Representation of data structure in memory is known as:

a) recursive **b) abstract data type** c) storage structure d) file structure

Q167. An ADT is defined to be a mathematical model of a user-defined type along with the collection of all _____ operations on that model.

a) Cardinality b) Assignment **c) Primitive** d) Structured

Q168. An algorithm is made up of two independent time complexities f (n) and g (n). Then the complexities of the algorithm is in the order of

a) f(n) x g(n) **b) Max (f(n),g(n))** c) Min (f(n),g(n)) d) f(n) + g(n)

Q169. As part of the maintenance work, you are entrusted with the work of rearranging the library books in a shelf in proper order, at the end of each day. The ideal choice will be

a) Bubble sort b) Quick sort **c) Insertion sort** d) Selection sort

Q170.The running time of merge sort can be recursively represented by

a) T(n)=2T(n/4)+n **b) T(n)=2T(n/2)+n** c) T(n)=2T(n/2)+2 d) T(n)=2T(n/3)+n

Q171.You have a sorted array and now you are given an element to be placed in that array so that the resulting array is also sorted, the best sorting technique in this case is

a) Bubble sort b) Selection sort **c) Insertion sort** d) Merge sort

Q172. The input to a merge sort is 6,5,4,3,2,1 and the same input is applied to quick sort then which is the best algorithm in this case

a) Merge sort b) Quick sort c) Cannot be decided

Q173. The memory available for storage is less, in this case if you want to sort the data which is the better approach amongst the following

a) Merge sort b) Quick sort **c) Heap sort** d) All

Q174. Arrange heap sort, merge sort and quick sort in the order of their space complexity

a) heap>merge>quick **b) quick<heap<merge** c) merge>quick>heap d) none

Q175. One of the reason why quick sort is better compared to other sorts is

a) its running time is O(n) **b) its space complexity is theta(log n),**

Q176. The running time of quick sort largely depends on

a) arrangement of elements **b) selection of pivot element** c) small list, d) none

Q177. The running time of heapify is given by

a) T(n) = T(2n/3) + Omega(1) b) T(n) = T(2n/2) , T(n) = T(2n) c) None

Q178. Which of the following statements are right about radix sort?

a) LSD radix sort is a stable sort b) MSD radix sort is a stable sort c) None.

Q179. LSD radix sort is applied on the following set of numbers: 21,86,124,33,29,163. What will be the order of numbers just before the MSD is considered?

a) (21,29,86,33,124,163) **b) (21,124,29,33,163,86)** c) (21,29,124,163,33,86)

Q180. The worst case time and worst case space complexity of radix sort is: a) O(k*lg (N)) b) O(N^2) **c) O(k*N)**

Q181. The Worst case occur in linear search algorithm when

a) Item is somewhere in the middle of the array,

b) Item is not in the array at all

c) Item is the last element in the array,

d) **Item is the last element in the array or is not there at all**

Q182. The Average case occur in linear search algorithm

a) **When Item is somewhere in the middle of the array.**

b) When Item is not in the array at all.

c) When Item is the last element in the array.

d) When Item is the last element in the array or is not there at all.

Q183. Arrays are best data structures

a) **For relatively permanent collections of data**

b) for the size of the structure and the data in the structure are constantly changing c) for both of above situation

d) for none of above situation

Q184. Each array declaration need not give, implicitly or explicitly, the information about

a) The name of array b) The data type of array

c) The first data from the set to be stored d) The index set of the array

Q185. Which of the following data structures are indexed structures?

a) linear arrays b) linked lists c) both of above d) none of above

Q186. Which of the following is not the required condition for binary search algorithm? a) The list must be sorted, there should be the direct access to the middle element in any sub list

b) There must be mechanism to delete and/or insert elements in list c) none of above

Q187. Which of the following statement is false?

a) Arrays are dense lists and static data structure

b) data elements in linked list need not be stored in adjecent space in memory

c) **pointers store the next data element of a list**

d) linked lists are collection of the nodes that contain information part and next pointer

Q188. Binary search algorithm cannot be applied to

a) sorted linked list b) sorted binary trees c) sorted linear array d) pointer array

Q189. The extra key inserted at the end of the array is called a,

a) End key. b) Stop key. **c) Sentinel.** D) Transposition.

Q190. The goal of hashing is to produce a search that takes

a) O(1) time b) O(n2) time c) O(log n) time d) O(n log n) time

Q191. The largest element of an array index is called its
a) lower bound. b) range. **c) upper bound.** d) All of these.

Q192. When new data are to be inserted into a data structure, but there is no available space; this situation is usually called
a) underflow **b) overflow** c) house full d) saturated

Q193. Which of the following is two way list?
a) grounded header list b) circular header list
c) linked list with header and trailer nodes **d) none of above**

Q194. Which of the following name does not relate to stacks?
a) FIFO lists b) LIFO list c) Piles d) Push-down lists

Q195. A data structure where elements can be added or removed at either end but not in the middle
a) Linked lists b) Stacks c) Queues **d) Deque**

Q196. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.
a) Input-restricted deque b) Output-restricted deque
c) Priority queues d) None of above

Q197. Which of the following data structure is non-linear type?
a) Strings b) Lists c) Stacks **d) None of above**

Q198. What is the postfix form of the following prefix *+ab–cd
a) ab+cd–* b) abc+*– c) ab+*cd– d) ab+*cd–

Q199. The situation when in a linked list START=NULL is
a) underflow b) overflow c) house full d) saturated

Q200. Linked lists are best suited for relatively permanent collections of data
a) **for the size of the structure and the data in the structure are constantly changing**
b) for both of above situation
c) for none of above situation

Q201. In list implementation, a node carries information regarding
a) the data b) the link c) the link and the data d) non above

Q202. The link field in the last node of the linked list contains
a) Zero value b) link to the first node
c) Pointer to the next element location d) all above

Q203. To delete a node at the beginning of the list, the location of the list is modified as the address of the.
a) second element in the list b) first element in the list
c) last element in the list d) no element

Q204. A linked list in which the last node points to the first is called a
a) Doubly linked list **b) Circular list** c) Generalized list d) reveres list

Q205. A doubly linked list facilitates list traversal in
a) Any direction b) Circular direction **c) Either direction** d) no direction

Q206. In the linked list representation of the stacks, the top of the stack is represented by
a) the last node b) any of the nodes **c) first node** d) non above

Q207. Polynodes consists of three fields representing
a) Coefficient, exponential and link b) Coefficient, data item and the link
b) Previous item link, data item and next item link d) only exponential and link

Q208. Linked list data structure usage offers considerable saving in
a) Computational time b) Space utilization
c) Space utilization as well as computational time. d) all above

Q209. Whether a list is full or empty is given by the
a) The status operation b) The length of the list c) The size of the list d) zero value

Q210. To represent hierarchical relationship between elements, which data structure is suitable?
a) Deque b) Priority **c) Tree** d) All of above

Q211. The depth of a complete binary tree is given by
a) Dn = n log2n **b) Dn = n log2n+1** c) Dn = log2n d) Dn = log2n+1

Q212. When inorder traversing a tree resulted E A C K F H D B G; the preorder traversal would return
a) FAEKCDBHG **b) FAEKCDHGB** c) EAFKHDCBG d) FEAKDCHBG

Q213. The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal

a) ABFCDE b) ADBFEC **c) ABDECF** d) ABDCEF

Q214. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called
a) Leaf b) branch c) path **d) thread**

Q215. The in order traversal of tree will yield a sorted listing of elements of tree in
a) Binary trees **b) Binary search trees** c) Heaps d) None of above

Q216. If every node u in G is adjacent to every other node v in G, A graph is said to be
a) isolated **b) complete** c) finite d) strongly connected

Q217. A binary tree of depth "d" is an almost complete binary tree if
a) Each leaf in the tree is either at level "d" or at level "d–1"
b) For any node "n" in the tree with a right descendent at level "d" all the left descendents of "n" that are leaves, are also at level "d" d) **Both a & b** c) None of the above

Q218. The degree of a node in a general tree can be

a) maximum two b) two **c) more than two** d) zero

Q219. In an ordered tree the left most son is the
a) oldest son b) youngest son c) left son d) None of the above

Q220. An element of a tree is called a
a) node b) root c) leaf

Q221. The node which gives rise to the branch node is called the
a) ancestor b) grandfather c) root node

Q222. Going from leaves to the root is called
a) traversing b) descending **c) climbing**

Q223. A binary tree in which every non-leaf node has non-empty right and left subtrees is said to be a
a) Strictly binary tree b) complete binary tree c) almost complete binary tree

Q224. In the inorder tree traversal the root is visited
a) before left subtree visit b) in between subtree visits c) before right subtree visit

Q225. In the sequential representation of binary tree implementation each node of the tree will have **a) no link field**

b) info, left, right and father fields

c) three fields, data and the pointers to left and right subtrees.

Q226. An adjacency matrix representation of a graph cannot contain information of :

a) nodes b) edges c) direction of edges **d) parallel edges**

Q227. In Breadth First Search of Graph, which of the following data structure is used?

a) Stack. **b) Queue.** c) Linked List. d) None of the above.

Q228. The binary tree in which the descendent points to the ancestor is called?

a) linked tree **b) threaded tree** c) pointer tree

Q229. A binary tree whose every node has either zero or two children is called:

a) Complete Binary Tree b) Binary Search Tree

c) None of the Above d) Extended Binary Tree

Q230. What is the output of the following program?

```
 #include <iostream>
int main()
{
char arr[20];
int I;
for(i=0;i<10;i++)
*(arr+i)=65+I;
*(arr+i)='\0';   cout<<arr;
  return(0);
}
```

Select one:

a) JJJJJJJJJJ b) ABCDEFGHIJ c) None of these d) AAAAAAAAAA

Q231. What is the running time of the following code fragment? for (int i=0; i<10; i++) for (int j=0; j<N; J++) for (int k=N-2; k<N+2; K++)

```
    cout<<in<<" "<<j<<end
```

a) O (log N) b) O (N) c) O (N^2) d) O (N log N)

Q232. The initial configuration of the queue is a, b, c, d (a is the front end).To get the configuration d, c, b, a one needs a minimum of?

a) 2 deletions and 3 additions
b) 3 deletions and 4 additions
c) 3 deletions and 2 additions
d) 3 deletions and 3 additions

Q233. What is the infix version of the following postfix expression? X12+z17Y +42*/+

a) x+12+z/ (17+y)*42
b) x+12+z ((17+y)*42
c) x+12+z/17+y*42
d) x+12+z)/ (17+Y*42)

Q234. Linked lists are not used in:

a) Linker b) OS c) None of these d) Compiler

Q235. The balance factor for an AVL tree are:

a) 0, 1, or -1 b) All of these c) 1, 2 or 3 d) 0, 1 or 2

Q236. Suppose we have the following class whose underlying data structure is a linked list of of List nodes.

```
class List{
public:
//other public functions
~List(); private:
struct
Listnode{ int
item; List
node *next;
};
ListNode*head;
};
```

Q237. Which of the following sequence of code could be used in the destructor~List () to correctly delete all of the nodes in the list? (Which ones are legal, even if the style is atrocious?)

```
I.      for(ListNode*n=head;head!=NULL;head=n){ n=head->next;
delete head;
}
II.     for (ListNode *n=head;n!=NULL;n->next){ delete n;
}

III.    ListNode*n;
```

Q238. while(head!=NULL){
n=head>next; delete head;
head=n;
}
a) I and II only b) III only c) II and III only d) and III only

Q239. Find the output of the following program?
Main ()
{
int x=20, y=35; x=y+++x;
cout<<x<<y;
}
a) 56, 91 b) 55, 90 c) 57, 94 d) 57, 92

Q240. The numbers of swapping needed to sort the numbers 25,23,21,22,24 in ascending order using bubble sort is:
a) 12 b) 20 c) 6 d) 13

Q241. What is the expected time required to search for a value in a binary search tree containing n nodes? (You should make reasonable assumptions about the structure of the tree.)
a) O(log n) b) O(n) c) O(1) d) O(n log n)

Q242. The inorder and preorder traversal of a binary tree are a b c a f c e g and a b d e c f g, Respectively. The postorder traversal of the binary tree is :
a) d e b f g c a b) e d b g f c a c) e d b f c a d) d e f b c a

Q243. Which one is not a type of a queue:
a) Non-liner Queue b) Circular queue c) Deque d) Priority Queue

Q244. Consider the following C
declaration struct{ short s[5]
union{ float y; long z; }u; }t:

Q245. Assume the objects of type short, float and long occupy 2 byte, 4 byte and 8 byte respectively. The memory requirement for variable t ignoring alignment considerations is
a) 14 byte b) 22 byte c) 18byte d) 10byte

Q246. In a complete binary tree of 'n' levels ,there are:
a) 2n-1leaves and 2n non-leaf nodes b) 2^n leaves and 2^n-1 non-leaf nodes
c) n^2leaves and n^2-1 non-leaf nodes d) 2^n-1leaves and 2^n non-leaf nodes

Q247. Which is not a sorting technique:
a) Merge sort b) Radix sort c) Quick sort d) Poll sort

Q248. The way a card game player arranges his cards as he picks them up one by one, is an example of
a) insertion sort b) merge sort c) selection sort d) bubble sort

Q249. Which one is the simplest data structure:
a) Strut b) Tree c) Linked List d) Array

Q250. A class template in C++ has the following structure

```
template <class T> class TemplatedClass {
…
}
;
```

Q251. What is the meaning of T in the above program?
a) It must be an integer constant b) It is a string variable
c) It is a placeholder for a type name d) It is a placeholder for a pointer value

Q252. In double order traversal :
a) Every node is visited once b) Only root node is visited twice
c) Some node are visited twice d) Every node is visited twice

Q253. What is the output of the following?

```
#include<iostream>
using namespace std;
int main ()
{
int i;
  char*art [] = {"C","C++","JAVA","VBA"};
char *(*ptr)[4] = &arr;
char<<++ (*ptr) [2];
  return 0;
}
```

a) Java b) C++ c) ava d) compile time error

Q254. In recursion which data structure is used:
a) Tree b) Linked List c) Array d) Stack

Q256. Which of the following operators cannot be overloaded?
a) = b) -> c) :: d) ==

Q257. The postfix equivalent of the infix 4 $2*3-3+8/4(1+1)is
a) 42$3*3-8/411+/+ b) 42$3*3-84/11+/+
c) 42$33*-84/11+/+ d) 42$3*3-84/11++/

Q.258) Stack is also called as
a) First in first out b) First in last out c) Last in last out **d) Last in first out**

Q.259) Any node is the path from the root to the node is called
a) Ancestor node c) Successor node c) Internal node d) None of the above

Q.260) Which of the following is not the type of queue?
a) Priority queue b) Circular queue **c) Single ended queue** d) Ordinary queue

Q.261) A graph is a collection of nodes, called ..... And line segments called arcs or ..... that connect pair of nodes.
a) vertices, paths **b) vertices, edges** c) graph node, edges d) edges, vertices

Q.262) In ....., search start at the beginning of the list and check every element in the list.
a) Binary search b) Hash Search **c) Linear search** d) Binary Tree search

Q. 263) In the ..... traversal we process all of a vertex's descendants before we move to an adjacent vertex.
a) Depth Limited b) With First c) Breadth First **d) Depth First**

Q. 267) To represent hierarchical relationship between elements, Which data structure is suitable?
a) Graph **b) Tree** c) Dequeue d) Priority

Q.268) Which of the following data structure is linear type?
a) Stack b) Graph c) rees d) Binary tree

Q.269) Herder node is used as sentinel in .....
a) Queues b) Stacks c) Graphs **d) Binary tree**

Q. 270) Which of the following data structure can't store the nonhomogeneous data elements?
a) Arrays b) Stacks c) Records d) None of the above

Q.271) A binary search tree whose left subtree and right subtree differ in hight by at most 1 unit is called .....

a) Lemma tree b) Redblack tree **c) AVL tree** d) None of the above

Q.272) ..... is a pile in which items are added at one end and removed from the other.
a) List **b) Queue** c) Stack
d) Array

Q.273) Which of the following is non-linear data structure?
a) Trees b) Stacks c) Strings d) All of the above

Q.274) The number of comparisons done by sequential search is .....
a) (N/2)+1 **b) (N+1)/2** c) (N-1)/2 d) (N-2)/2

Q.275) ..... is not the operation that can be performed on queue.
a) Traversal b) Insertion c) Deletion d) Retrieval

Q.276) Which is/are the application(s) of stack
a) Function calls b) Large number Arithmetic
c) Evaluation of arithmetic expressions **d) All of the above**

Q.277) Which of the following data structures are indexed structures?
a) Stack b) Linked lists **c) Linear arrays** d) None of the above

Q. 278) Which of the following data structure store the homogeneous data elements?
a) Lists b) Pointers **c) Records** d) Arrays

Q.279) Linear arrays are also called.....
a) One-dimensional array b) Vertical array c) Horizontal array d) All of the above

Q.280) A ..... does not keep track of address of every element in the list.
a) Stack b) Queue c) String **d) Linear array**

Q.281) The complexity of linear search algorithm is
a) O(n) b) O(log n) c) O(n2) d) O(n log n)

Q. 282) The complexity of Binary search algorithm is
a) O(n) **b) O(log n)** c) O(n2) d) O(n log n)

Q.283) The complexity of Bubble sort algorithm is
a) O(n) b) O(log n) **c) O(n2)** d) O(n log n)

Q.284) The complexity of merge sort algorithm is

a) O(n) b) O(log n) c) O(n2) **d) O(n log n)**

Q.285) The space factor when determining the efficiency of algorithm is measured by

a) **Counting the maximum memory needed by the algorithm**

b) Counting the minimum memory needed by the algorithm

c) Counting the average memory needed by the algorithm

d) Counting the maximum disk space needed by the algorithm

Q.286) The operation of processing each element in the list is known as

a) Traversal b) Inserting c) Merging d) Sorting

Q.287) Binary trees with threads are called as.....

a) Special trees b) Pointer trees **c) Threaded trees** d) None of the above

Q.288) In Binary trees nodes with no successor are called.....

a) End nodes b) Final nodes c) Last nodes **d) Terminal nodes**

Q.289 The depth of a complete binary tree is given by

a) Dn = n log2n b) Dn = n log2n+1 c) Dn = log2n **d) Dn = log2n+1**

Q.290) Every node N in a binary tree T except the root has a unique parent called the ..... of N.

a) Predecessor b) Antecedents c) Precursor d) None of the above

Q.291) The in order traversal of tree will yield a sorted listing of elements of tree in....

a) Merging b) AVL Trees c) Binary trees **d) Binary search trees**

Q.292) A binary tree whose every node has either zero or two children is called.....

a) Extended binary tree b) Complete binary tree

c) Binary Search tree d) Disjoint tree

Q.293) The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal

a) ABFCDE b) ADBFEC **c) ABDECF** d) ABDCEF

Q.294) Three standards ways of traversing a binary tree T with root R .....

a) Prefix, infix, postfix b) Pre-process, in-process, post-process

c) Pre-traversal, in-traversal, post-traversal **d) Pre-order, in-order, post-order**

Q.295) A technique for direct search is_____

a) Hashing b) Tree Search c) Binary Search d) Linear Search

Q.296) If a node having two children is deleted from a binary tree, it is replaced by its

a) Preorder predecessor b) Inorder predecessor

c) Inorder successor d) Preorder successor

Q.297) A full binary tree with 2n+1 nodes contain

a) n leaf nodes **b) n non-leaf nodes** c) n-1 leaf nodes d) n-1 non-leaf nodes

Q.298) A full binary tree with n leaves contains

a) n - 1 nodes b) log2n nodes **c) 2n – 1 nodes** d) 2n nodes

Q.299) The smallest element of an array's index is called its

a) extraction b) range **c) lower bound** d) upper bound

Q.300) The data structure required for Breadth First Traversal on a graph is
a) queue b) stack c) array d) None of the above

Q.301) One can convert a binary tree into its mirror image by traversing it in
a) inorder b) preorder **c) postorder** d) None of the above

Q.302) The data structure required to evaluate a postfix expression is
a) queue **b) stack** c) linked-list d) All of the above

Q.303) Which of the following sorting methods would be most suitable for sorting a list which is almost sorted
a) Insertion Sort b) Selection Sort c) Quick Sort **d) Bubble Sort**

Q.304) The process of accessing data stored in a serial access memory is similar to manipulating data on a
a) heap b) queue **c) stack** d) None of the above

Q.305) The postfix form of A*B+C/D is
a) ABCD+/* **b) AB*CD/+** c) *AB/CD+ d) A*BC+/D

Q.306) A linear collection of data elements where the linear node is given by means of pointer is called
a) linked list b) node list c) primitive list d) None of these

Q.307) Representation of data structure in memory is known as:
a) storage structure b) file structure **c) abstract data type** d) None of the above

Q.308) The goal of hashing is to produce a search that takes
a) O(1) time b) O(n2) time c) O(log n) time d) O(n log n) time

Q.309) The complexity of multiplying two matrices of order m*n and n*p is
a) np b) mn+p c) mn **d) mnp**

Q.310) For an undirected graph with n vertices and e edges, the sum of the degree of each vertex is equal to
a) 2n **b) 2e** c) (e2+1)/2 d) (2n-1)/2

Q.311) Which data structure allows deleting data elements from and inserting at rear?
a) Stacks **b) Queues** c) Dequeues d) Binary search tree

Q.312) Which data structure is used in breadth first search of a graph to hold nodes?
a) Array b) Tree c) Stack **d) queue**

Q.313) Identify the data structure which allows deletions at both ends of the list but insertion at only one end.
a)
Stack b) Priority queues
c) Output restricted qequeue **d) Input restricted dequeue**

Q.314) Which of the following data structure is non linear type?
a) Graph b) Stacks c) Lists d) None of the above

Q.315 In a queue, the initial values of front pointer f rare pointer r should be …….. and …….. respectively.
a) 0 and 1 **b) 0 and -1** c) -1 and 0 d) 1 and 0

Q.316) There is an extra element at the head of the list called a .....
a) Sentinel b) Antinel c) List head d) List header

Q.317) The property of binary tree is
a) The root cannot contain NULL b) The first subset is called left subtree
c) The second subtree is called right subtree **d) The right subtree can be empty**

Q.318) When new data are to be inserted into a data structure, but there is not available space; this situation is usually called .....
a) overflow b) Underflow c) housefull d) memoryfull

Q.319) A data structure where elements can be added or removed at either end but not in the middle is called .....
a) stacks b) queues **c) dequeuer** d) linked lists

Q.320) The use of pointers to refer elements of a data structure in which elements are logically adjacent is .....
a) stack b) queue c) pointers **d) linked allocation**

Q.321) Binary search algorithm cannot be applied to...
a) pointer array b) sorted linear array c) sorted binary trees d) sorted linked list

Q.322) ..... is the method used by card sorter?
a) Quick b) Heap c) Insertion **d) Radix sort**

Q.323) Which of the following conditions checks available free space in avail list?
a) Avail=Top b) Null=Avail **c) Avail=Null** d) Avail=Max stack

Q.324) Which of the following is not the type of queue?
a) Priority queue b) Circular queue c) Ordinary queue **d) Single ended queue**

Q.325) ..... is a directed tree in which outdegree of each node is less than or equal to two.
a) Binary tree b) Dinary tree c) Unary tree d) None of the above

Q.326) The number of comparisons done by sequential search is .....
a) (N/2)-1 **b) (N+1)/2** c) (N-1)/2 d) (N+2)/2

Q.327) In ....., search start at the beginning of the list and check every element in the list.
a) Hash Search b) Binary search **c) Linear search** d) Binary Tree search

Q.328 The operation that combines the element is of A and B in a single sorted list C with n=r+s element is called.....

a) Sharing **b) Merging** c) Inserting d) None of the above

Q.329) Which of the following is an internal sorting?

a) 2-way Merge Sort b) Tape Sort c) Merge Sort **d) Tree Sort**

Q.340) Which of the following is an external sorting?

a) Merge Sort b) Tree Sort c) Bubble Sort d) Insertion Sort

Q.341) ..... is the term used to insert an element into stack?

a) Push b) Pull c) Pop d) All of the above

Q.342) ..... is the term used to delete an element from the stack?

a) Push b) Pull **c) Pop** d) All of the above

Q.343) Before inserting into stack one must check the condition.....

a) Overflow b) Underflow c) Maximum elements d) Existing elements

Q.344) Deletion in the linked stack takes place by deleting.....

a) Beginning of the list b) End of the list

c) Middle of the list **d) Node pointed by the start process.**

Q.345) The value of REAR is increased by 1 when.....

a) An element is merged in a queue **b) An element is added in a queue**

c) An element is traversed in a queue d) An element is deleted in a queue

Q.346) The operation of processing each element in the list is known as.....

a) merging **b) traversal** c) inserting d) sorting

Q.347) Sequential representation of binary tree uses.....

a) Array with pointers b) Single linear array

c) Two dimensional arrays d) Three dimensional arrays

Q.348) In a 2-tree, nodes with 0 children are called.....

a) Outer node b) Exterior node **c) External node** d) Outside node

Q.349) In a extended-binary tree nodes with 2 children are called.....

a) Inner node **b) Internal node** c) Domestic node d) Interior node

Q.350) The line drawn from a node N of tree T to a successor is called .....

a) Route b) Arrow **c) Edge** d) Path

Q.351 Which of the following sorting algorithms does not have a worst case running time of O(n2)?

a) Insertion sort b) Quick sort c) Bubble sort **d) Merge sort**

Q.352) In a circular linked list

a) **there is no beginning and no end.**

b) components are arranged hierarchically.

c) forward and backward traversal within the list is permitted.

d) components are all linked together in some sequential manner.

Q.353) The quick sort algorithm exploit _____ design technique

a) Overflow b) Backtracking c) Dynamic programming **d) Divide and Conquer**

Q.354) The data structure required to check whether an expression contains balanced parenthesis is

a) Stack b) Queue c) Tree d) Array

Q.355) What data structure would you mostly likely see in a nonrecursive implementation of a recursive algorithm?

a) Trees b) Linked list **c) Stack** d) Queue

Q.356) The number of leaf nodes in a complete binary tree of depth d is

a) 2d b) 2d–1+1 c) 2d+1+1 d) 2d+1

Q.357) The pre-order and post order traversal of a Binary Tree generates the same output. The tree can have maximum

a) One node b) Two nodes c) Three nodes d) Any number of nodes

Q.358) A binary tree of depth "d" is an almost complete binary tree if

a) Each leaf in the tree is either at level "d" or at level "d–1"

b) For any node "n" in the tree with a right descendent at level "d" all the left descendents of "n" that are leaves, are also at level "d" c) **Both (A) & (B)**

d) None of the above

Q.359) In a binary tree a sequence of consecutive edges is called .....
a) Path b) Rotate c) Two-way d) Connecting lines

Q.360) An adjacency matrix representation of a graph cannot contain information of:
a) nodes b) edges **c) parallel edges** d) direction of edges

Q.361) ..... is not the operation that can be performed on queue.
a) Traversal b) Retrieval c) Deletion d) Insertion

Q.362) A linear list in which the last node points to the first node is .....

a) singly linked list b) doubly linked list **c) circular linked list** d) none of the above

Q.363) A linear list in which the pointer points only to the successive node is.....
a) singly linked list b) circular linked list c) doubly linked list d) none of the above

Q,364) A ..... indicates the end of the list.
a) Guard **b) Sentinel** c) End pointer d) Last pointer

Q.365) LLINK is the pointer pointing to the .....
a) head node b) last node c) successor node **d) predecessor node**

Q.366) Indexing the..... element in the list is not possible in linked lists.
a) first **b) middle** c) last d) All of the above

Q.367) A doubly linked list has ..... pointers with each node.
a) 0 b) 1 **c) 2** d) 3

Q.368 A linear list in which each node has point to the predecessor and successors nodes is called .....
a) singly linked list b) linear linked list **c) doubly linked list** d) None of the above

Q.369) RLINK is the pointer pointing to the.....
a) last node b) head node **c) successor node** d) predecessor node

Q370) In a linked list, insertion can be done as.....

a)beginning b) middle c) end **d) all of the above**

Q.371 The link field of last node, in a singly link list representation is linked with

a) The data field of the first node b) The link field of the first node

c) A null **d) The link field of the prior node**

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1) In ..... , we have a strict parent-child relationship only.
   A) hierarchical databases. B) network databases
   C) object oriented databases D) relational databases

2) The file in DBMS is called as ..... in RDBMS.
   A) console B) schema C) **table** D) object

3) What operator tests column for the absence of data? A) **IS NULL operator** B) ASSIGNMENT operator
   C) LIKE operator D) NOT operator

4) The ..... refers to the way data is organized in and accessible from DBMS.
   A) database hierarchy B) data organization
   C) data sharing D) **data model**

5) ..... is the powerful language for working with RDBMS.
   A) Embedded Programs B) Dynamic Programs
   C**) Query Language** D) Static Language Programs

6) A table can have only 0 or 1 primary key
   A) **True** B)False

7) How many unique keys can a table have
   A) 1 B) 0 C) 2 D) **Multiple**

8) SQL stands for
   A) **Structured Query Language**
   B) Solid Query Language
   C) Simple Query Language
   D) Science Query Language

9) Which is more secured
   A) File System B) **RDBMS** C) Both D) None

10) Excel is ----------
   A) **DBMS** B) Database C) RDBMS D) ORDBMS

11) Oracle is ----------

A) DBMS B) Database C) RDBMS D) **ORDBMS**

12) Office register is ---------

A) DBMS B) **Database** C) RDBMS D) ORDBMS

13) Various Keywords supported by SQL are

A) Insert B) Update

C) Select **D) All of the Above**

14) Which Databases supports SQL

A) Oracle B) SQL Server

C) MySQL **D) All of the above**

15) Example of Non-Numerical Data is

A) **Employee Address** B) Bank Balance

C) Examination Score D) None of the Above

16) Which of the following is a correct SQL query

A) Select * from emp where eid=100 , ename='a'

B) Select * from emp where eid=100 ename='a'

C) Select * where eid=100 and ename='a' from emp

D) **Select * from emp where eid=100 and ename='a'**

17) Which of the following constraint is not supported by MySQL

A) Primary Key B) Unique Key **C) Check Constraint** D) Not Null

18) How many null values can a unique key column have in MySQL A) **Multiple** **B)** 0

C) 1 D) 2

19) How many null values can a primary key column have in MySQL A) Multiple B) **0**

C) 1 D) 2

20) Can the child table foreign key column has null value?

A) **True** B) False

21) Which of the following query is used to delete data from table A) Drop B) **Delete** **C)** Update D) Alter

22) Does MySQL supports composite Primary keys?

A) **True** B) False

23) Does MySQL supports composite Unique keys?
A) **True** B) False

24) Does MySQL supports composite Foreign keys?
A) **True** B) False

25) Which of the following set operators are supported by MySQL.
A) **Union** B) Intersect C) Minus D) Except

26) Which of the following joins are not supported by MySQL.
A) **FULL** B) Left C) Right D) Inner

27) Which of the following joins will return highest number of rows? A) **Cross Join** **B)** Left Join C) Inner Join D) Right Join

28) Does MySQL supports case statements?
A) **True** **B)** False

29) Can we have a HAVING Clause in the query without group by clause?
A) True **B) False**

30) What is the default sort done in MySQL when you order by clause? **A) Ascending** B) Descending C) None D) both

31) Which of the following is an aggregate function in SQL?
A) Union B) Like C) Group By D) **Max**

32) Every Boyce-Codd normal form is in
A) First normal form B) Third normal form
C) Second normal form **D) All of the above**

33) 4NF is designed to cope with:
A) Transitive dependency B) Join dependency
C) Multi valued dependency D) None of these

34) In a relational database a referential integrity constraint can be specified with the help of
A) primary key **B) foreign key** C) secondary key D) none of the above

35) A Function that has no partial dependencies is in
A) 3NF **B) 2NF** C) 4NF D) BCNF

36) If every non-key attribute is functionally dependent on the entire primary key, then the relation will be in:
A) 1NF **B) 2NF** C) 3NF D) 4NF

37) Third normal form is based on the concept of
A) Closure Dependency **B) Transitive Dependency** C) Normal Dependency
D) Functional Dependency

38) A relation is ..... if every field contains only atomic values that is, no lists or sets.
A) **1 NF** B) 2 NF C) 3 NF D) BCNF

39) Which of the following can add a row to a table?
A) Add B) **Insert** C) Update D) Alter

40) In a LIKE clause, you can could ask for any value ending in "qpt" by writing
A) **LIKE %qpt** B) LIKE *ton C) LIKE ton$ D) LIKE ^.*ton$

41) 41) A NULL value is treated as a blank or 0.
A) True **B) False**

42) MySQL is
A) A Programming language B) A Programming language
C) A technique for writing reliable programs **D) A Relational Database Management System**

43) In a LIKE clause, you can ask for any 6 letter value by writing? A) LIKE ??????
B) LIKE .{6} Answer 5: LIKE ^.{6}$
C) LIKE ..... (that's six dots)
D) **LIKE _____ (that's six underscore characters)**

44) The result of a SELECT statement can contain duplicate rows.
A) False **B) True**

45) A table may be joined to itself.
A) **True** B) False

46) Which of the following is not a valid aggregate function?

A) COUNT B) MIN C) MAX **D) COMPUTE**

47) What SQL clause is used to **restrict the rows** returned by a query?
A) AND **B) WHERE** C) Group D) FROM

48) Which of the following commands should be used to create a database named "student"?
A) **CREATE ?I student** B) CREATE DATABASE student
C) DATABASE /student D) DATABSE student

49) Which one will delete the table data as well as table structure?
A) TRUNCATE **B) DROP** C) delete D) All of the above

50) The USE command?
A) Is used to load code from another file
B) Has been deprecated and should be avoided for security reasons
C) Is a pseudonym for the SELECT command
D) **Should be used to choose the database you want to use once you've connected to MySQL**

51) A SELECT command without a WHERE clause returns?
A) All the records from a table that match the previous WHERE clause
B) **All the records from a table, or information about all the records**
C) SELECT is invalid without a WHERE clause
D) Nothing

52) The command to remove rows from a table 'CUSTOMER' is:
A) REMOVE FROM CUSTOMER ... B) DROP FROM CUSTOMER ...
C)**DELETE FROM CUSTOMER WHERE ...** D)UPDATE FROM CUSTOMER ...

53) The SQL WHERE clause:
A) limits the column data that are returned. B) **limits the row data are returned.**
C) Both A and B are correct. D) Neither A nor B are correct.

54) The command to eliminate a table from a database is:
A) REMOVE TABLE CUSTOMER; **B) DROP TABLE CUSTOMER;**
C) DELETE TABLE CUSTOMER; D) UPDATE TABLE CUSTOMER

55) Which of the following is the correct order of keywords for SQL SELECT statements?
A) **SELECT, FROM, WHERE** B) FROM, WHERE, SELECT
C) WHERE, FROM,SELECT D) SELECT,WHERE,FROM;

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56) A subquery in an SQL SELECT statement is enclosed in:
A) braces -- {...}. B) CAPITAL LETTERS. **C) parenthesis -- (...).** D) brackets -- [...].

57) Which of the following are the five built-in functions provided by SQL? **A) COUNT, SUM, AVG, MAX, MIN**
B) SUM, AVG, MIN, MAX, MULT
C) SUM, AVG, MULT, DIV, MIN D) SUM, AVG, MIN, MAX, NAME

58) Which of the following do you need to consider when you make a table in SQL?
A) Data types B) Primary keys C) Default values **D) All of the above.**

59) Find the SQL statement below that is equal to the following: SELECT NAME FROM CUSTOMER WHERE STATE =
'VA';
A) SELECT NAME IN CUSTOMER WHERE STATE IN ('VA');
B) SELECT NAME IN CUSTOMER WHERE STATE = 'VA';
C) SELECT NAME IN CUSTOMER WHERE STATE = 'V';
D) **SELECT NAME FROM CUSTOMER WHERE STATE IN ('VA');**

60) Which one of the following is used to define the structure of the relation ,deleting relations and relating schemas ?
A) DML(Data Manipulation Langauge) **B) DDL(Data Definition Langauge)**
C) Query D) Relational Schema

61) Which one of the following provides the ability to query information from the database and to insert tuples into, delete tuples from, and modify tuples in the database ?
A) **DML(Data Manipulation Langauge)** B) DDL(Data Definition Langauge)
C) Query D) Relational Schema

62) Create table employee (name varchar ,id integer) What type of statement is this ?
A) DML **B) DDL** C) View D) Integrity constraint

63) To remove a relation from an SQL database, we use the _____ command.
A) Delete B) Purge C) Remove **D) Drop table**

64) Delete from r; r – relation
This command performs which of the following action ?
A) Remove relation B) Clear relation entries C) Delete fields **D) Delete rows**

65) A _____ consists of a sequence of query and/or update statements.
A) **Transaction** B) Commit C) Rollback D) Flashback

66) Which of the following makes the transaction permanent in the database ?

A) View **B) Commit** C) Rollback D) Flashback

67) In order to undo the work of transaction after last commit which one should be used ?

A) View B) Commit **C) Rollback** D) Flashback

68) Consider the following action:

Transaction…..
Commit;
Rollback;
What does Rollback do?

A) Undoes the transactions before commit
B) Clears all transactions
C) Redoes the transactions before commit
D) **No action**

69) In case of any shut down during transaction before commit which of the following statement is done automatically ?

A) View B) Commit **C) Rollback** D) Flashback

70) Aggregate functions are functions that take a _____ as input and return a single value.

A) **Collection of values** B) Single value C) Aggregate value D) Both a & b

71) Select _____ from instructor where dept name= 'Comp. Sci.'; Which of the following should be used to find the mean of the salary ?

A) Mean(salary) **B) Avg(salary)** C) Sum(salary) D) Count(salary)

72) All aggregate functions except _____ ignore null values in their input collection.

A) Count(attribute) **B) Count(*)** C) Avg D) Sum

73) Which of the following should be used to find all the courses taught in the Fall 2009 semester but not in the Spring 2010 semester .

A) Select distinct course id from section where semester = 'Fall' and year= 2009 and course id not in (select course id from section where semester = 'Spring' and year= 2010);

B) Select distinct course_id from instructor where name not in ('Fall', 'Spring');

C) (Select course id from section where semester = 'Spring' and year= 2010)

D) Select count (distinct ID) from takes where (course id, sec id, semester, year) in (select course id, sec id, semester, year from teaches where teaches.ID= 10101);

74) The phrase "greater than at least one" is represented in SQL by _____.
A) < all B) < some C) > all **D) > any**

75) We can test for the nonexistence of tuples in a subquery by using the _____ construct. A) Not exist
B) Not exists C) Exists D) Exist

76) Which of the following is not a aggregate function ?
A) Avg B) Sum **C) With** D) Min

77) The EXISTS keyword will be true if:
A) Any row in the subquery meets the condition only.
B) All rows in the subquery fail the condition only.
C) Both of these two conditions are met.
D) Neither of these two conditions is met.

78) To include integrity constraint in a existing relation use :
A) Create table B) Modify table **C) Alter table** D) Drop table

79) Which of the following is not a integrity constraint ?
A) Not null **B) Positive** C) Unique D) Check 'predicate'

80) Foreign key is the one in which the _____ of one relation is referenced in another relation.
A) Foreign key **B) Primary key** C) References D) Check constraint

81) Which of the following can be addressed by enforcing a referential integrity constraint?
A) All phone numbers must include the area code
B) Certain fields are required (such as the email address, or phone number) before the record is accepted
C) **Information on the customer must be known before anything can be sold to that customer**
D) When entering an order quantity, the user must input a number and not some text (i.e., 12 rather than 'a dozen')

82) The condition allows a general predicate over the relations being joined.
A) On B) Using C) Set D) Where

83) Which of the join operations do not preserve non matched tuples.
A) Left outer join B) Right outer join **C) Inner join** D) Natural join

84) What type of join is needed when you wish to include rows that do not have matching values?

A) Equi-join B) Natural join **C) Outer join** D) All of the mentioned

85) How many tables may be included with a join?

A) One B) Two C) Three **D) All of the mentioned**

86) In SQL the statement select * from R, S is equivalent to

A) Select * from R natural join S
B) **Select * from R cross join S**
C) Select * from R union join S
D) Select * from R inner join S

87) A _____ indicates an absent value that may exist but be unknown or that may not exist at all.

A) Empty tuple B) New value **C) Null value** D) Old value

88) Select name from instructor where salary is not null; Selects A) Tuples with null value **B) Tuples with no null values** C) Tuples with any salary D) All of the mentioned

89) The primary key must be

A) Unique B) Not null **C) Both a and b** D) Either a or b

90) Which one of the following deletes all the entries but keeps the structure of the relation .

A) Delete from r where P;
B) Delete from instructor where dept name= 'Finance';
C) Delete from instructor where salary between 13000 and 15000; D) Delete from instructor;

91) Which of the following deletes all tuples in the instructor relation for those instructors associated with a department located in the Watson building which is in department relation.

A) Delete from instructor where dept_name in 'Watson';
B) Delete from department where building='Watson';
C) **Delete from instructor where dept_name in (select dept name from department where building = 'Watson');**
D) Both a and c

92) Update instructor

_____ salary= salary * 1.05;

Fill in with correct keyword to update the instructor relation.

A) Where **B) Set** C) In D) Select

93) Which of the following is the correct format for case statements .

A) Case when pred1 … result1 when pred2 … result2

. . .
when predn …
resultn else result0
end

B) **Case when pred1 then result1 when pred2 then result2**
. . .
when predn then resultn else result0 end

C) Case when pred1 then result1 when pred2 then result2
. . .
when predn then resultn else result0

D) All of the mentioned

94) A collection of data designed to be used by different people is called a/an
A) Organization **B) Database** C) Relationship D) Schema 105.

95) Which of the following terms does refer to the correctness and completeness of the data in a database? A) Data security B) Data constraint C) Data independence **D) Data integrity**

96) The relationship between DEPARTMENT and EMPLOYEE is a A) One-to-one relationship **B) One-to-many relationship** C) Many-to-many relationship D) Many-toone relationship

97) 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
A) Consistent state B) Parallel state C) Durable state **D) Inconsistent state**

98) Each modification done in database transaction are first recorded into the
A) Harddrive **B) Log** C) Disk D) Datamar

99) When the transaction finishes the final statement the transaction enters into
A) Active state **B) Committed state** C) Partially committed state D) Abort state

100) Which of the following is an atomic sequence of database actions?
A) **Transaction** B) Concurrency C) Relations D) All of the mentioned

101) _____ means that data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.
A) Serializability B) Atomicity **C) Isolation** D) Time stamping

102) In SQL, which command is used to select only one copy of each set of duplicate rows
A) **SELECT DISTINCT** B) SELECT UNIQUE C) SELECT DIFFERENT D) All of the above

103) Composite key is made up of .....
A) One column B) One super key C) One foreign key **D) Two or more columns**

104) What command is used to get back the privileges offered by the GRANT command? A) Grant
B) Revoke C) Execute D) Run

105) Which of the following query is correct for using comparison operators in SQL?
A) SELECT sname, coursename FROM studentinfo WHERE age>50 and <80;
B) **SELECT sname, coursename FROM studentinfo WHERE age>50 and age <80;**
C) SELECT sname, coursename FROM studentinfo WHERE age>50 and WHERE age<80; D) None of the above

106) How to select all data from studentinfo table starting the name from letter 'r'?
A) SELECT * FROM studentinfo WHERE sname LIKE 'r%';
B) SELECT * FROM studentinfo WHERE sname LIKE '%r%';
C) SELECT * FROM studentinfo WHERE sname LIKE '%r';
D) SELECT * FROM studentinfo WHERE sname LIKE '_r%';

107) Which of the following SQL query is correct for selecting the name of staffs from 'tblstaff' table where salary is 15,000 or 25,000?
A) SELECT sname from tblstaff WHERE salary IN (15000, 25000);
B) SELECT sname from tblstaff WHERE salary BETWEEN 15000 AND 25000; C) Both A and B
D) None of the above

108) Select a query that retrieves all of the unique course name from the student table?
A) SELECT DISTINCT coursename FROM studentinfo;
B) SELECT UNIQUE coursename FROM studentinfo;
C) SELECT DISTINCT coursename FROM TABLE studentinfo;
D) SELECT INDIVIDUAL coursename FROM studentinfo;

109) Which query is used for sorting data that retrieves the all the fields from empinfo table and listed them in the ascending order?
A) SELECT * FROM empinfo ORDER BY age;
B) SELECT * FROM empinfo ORDER age;
C) SELECT * FROM empinfo ORDER BY COLUMN age;
D) SELECT * FROM empinfo SORT BY age;

110) Select the right statement to insert values to the stdinfo table.
A) INSERT VALUES ("15", "Hari Thapa", 45, 5000) INTO stdinfo;
B) INSERT VALUES INTO stdinfo ("15", "Hari Thapa", 45, 5000);
C) INSERT stdinfo VALUES ("15", "Hari Thapa", 45, 5000);
D) **INSERT INTO stdinfo VALUES ("15", "Hari Thapa", 45, 5000);**

111) How to Delete records from studentinfo table with name of student 'Hari Prasad'?
A) DELETE FROM TABLE studentinfo WHERE sname='Hari Prasad';
B) **DELETE FROM studentinfo WHERE sname='Hari Prasad';**
C) DELETE FROM studentinfo WHERE COLUMN sname='Hari Prasad';
D) DELETE FROM studentinfo WHERE sname
LIKE 'Hari Prasad';

112) Which of the following statement is correct?
A) SQL processes sets of data as groups rather than as individual units
B) SQL processes sets of data as individual units rather than as groups
C) SQL is not a data sublanguage
D) SQL does not provide an interface to a relational database

113) Which is the default isolation level in MySQL
A) **Repeatable Reads** B) Read Committed C) Read uncommitted D) Serializable

114) Which of the following isolation levels allow dirty reads?
A) Repeatable Reads B) Read Committed C) Read uncommitted **D) Serializable**

115) Which of the following isolation levels doesn't allow phantom reads?
A) Repeatable Reads B) Read Committed C) Read uncommitted **D) Serializable**

116) Which of the following isolation levels doesn't allow non-repeatable reads? A) Repeatable Reads B) Read Committed C) both D**) none**

117) How many primary keys are allowed in a table? A) 0 B) 1 **C) both** D) None

118) How many Unique keys are allowed in a table? A) 0 B) Multiple **C) both** D) None

119) Can we create composite foreign keys?
A) **True** B) False

120) Which of the following can be called inside queries?
A) Procedures **B) Functions** C) Triggers D) All

121) What is used to fetch data row by row from a table-
A) **Cursor** B) Variable C) Both D) None

122) Which is the default Isolation level in MySQL
A) Read Uncommitted B) Read Committed **C) Repeatable Reads** D) Serializable

123) Which isolation level is supports dirty reads-
A) **Read Uncommitted** B) Read Committed C) Repeatable Reads D) Serializable

124) Which isolation level doesn't support Phantom reads-
A) Read Uncommitted B) Read Committed C) Repeatable Reads **D) Serializable**

125) Which isolation level does support Repeatable Reads-
A) Repeatable Reads B) Serializable C) None **D) Both**

126) Which is the strictest isolation level-
A) Read Uncommitted B) Read Committed C) Repeatable Reads **D) Serializable**

127) What is used to optimize search?
A) View B) Group by Clause **C) Index** D) Procedure

128) Which is following query is correct- A) Select from emp having count(*)=1
B) **select 1 from emp group by deptid having count(*)=1**
C) select from dept from emp group by deptname
D) None

129) Which of the following can be executed by users?
A) Procedures B) functions **C) Both** D) None

130) Which of the following cannot be executed by users-
A) **Triggers** B) Functions C) Procedures D) None

131) Which of following commands can be used to start a transaction?
A) **Start Transaction** B) Transaction C) Start Tran D) Non

132) What is the command to all salaries which are null?
A) select salary from emp where salary=null

B) select salary from emp where salary='null'
C) select salary from emp where salary is not null
D) **select salary from emp where salary is null**

133) What is the command show list of all users in mysql **A) select user from mysql.user** B) select user
C) show users D) select current_user()

134) What is the command show list the currently connected user in mysql session
A) select user from mysql.user B) select user
C) show users **D) select current_user()**

135) How many Auto Increment columns can a table have?
A) 0 B) 1 **C) Both of the above** D) Multiple

136) Can you create an Auto Increment on a unique Key
A) True **B) False**

137) Which Normal form allows dependency of one non-key attribute on another non-key attribute?
A) **2nd Normal form** B) 3rd Normal form
C) 4th Normal form D) None

138) What is the level of Normalization present in Star Schema?
A) **2nd Normal Form** B) 3rd Normal Form
C) 4th Normal Form D) 1st Normal Form

139) What is the level of Normalization present in Snowflake Schema?
A) 2nd Normal Form **B) 3rd Normal Form**
C) 4th Normal Form D) 1st Normal Form

Extra MCQ

1. **Redo Log Buffer** SGA stores all the redo log entries.

2. **Process** is a 'thread of control' or mechanism in Operating System that executes series of steps.

3. The data of a row in a table may not be able to fit the same data block. Data for row is stored in a chain of data blocks which is called as **Row chaining**

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4. A sub-query cannot have a_clause and a _____ of selects.

5. A _____ is a set of values that may appear in one or more columns.

6. PL/SQL provides_____keyword, which is used to name an exception.

7. An _____ defined as the collection of blocks which must be continuous whenever allocation takes place.

8. A_____is a table that is currently being modified by a DML statement.

9. The _____ character is used to designate wild characters.

10. Indexes are created in conjunction with _____ and_____constraints.

11. Types of views are_ _____and _____ .

12. The date function that returns a numerical value is _____.

13. To define access keys in the menu give the_ _____symbol before the desired character.

14. An index may contain upto_columns.

15. To print the message along with the variable ew use the package__.

16. To select data from a range of values__operator is used.

17. A_expression returns either TRUE or FALSE.

18. number of columns can be used in an ORDER BY clause.

19. Once the values are inserted in a table, the size of its columns can only be **Increased** & can never be **decreased**

20. ROWID is a **pseudo** column

21. In DBMS terms, the number of rows in a table is called its **cardinality** & the no. of columns it has defines its **degree**

22. The most serious drawback in the ER model is that it cannot depict **relationships**

23. **Dummy records** is used to represent many to many relationship in the Network model

24. The data structure used in the Network model is **graph** & that used in the hierarchical model is **tree**

25. An SQL query is **interpreted** & a PL/SQL block is **compiled** before execution

26. The 4 phases of processing a cursor are **Declare**, **Open**, **Fetch** & **Close**

27. The **FOR UPDATE** clause when used with a SELECT query locks a table

28. When a user executes SELECT ……. FOR UPDATE on a table, it tries to lock it, but if the table is already locked, the user is placed in a no-operation mode. This situation can be prevented by using **NOWAIT** clause

29. A table whose primary key retains its uniqueness in the view created over it is called a **key preserved** table

30. **Instead of** trigger is used to take care of operations on columns of a Non Key-preserved table through the join view

31. A tablespace is a collection of **datafiles**

32. The SQL query for calculating the cube of 4 is **SELECT POWER(4, 3) FROM dual**

33. **WITH READ ONLY** clause when used with CREATE VIEW statement prevents the users from modifying the underlying base tables through the view

34. The **With admin option** clause of the GRANT command makes the recipient the owner of the granted object

35. The **With grant option** clause of the GRANT command allows the recipient to pass the privilege to others

36. The 5 important components of a Database Management system (DBMS) are **Database engine**, **data dictionary**, **query processor**, **report writer** & **form generator**

37. Specialization is a **IS-A** relationship and Composition is a **HAS-A** relationship

38. 1NF specifies that there should be no **repeating groups**

39. The join that combines every row (no matter matching or non-matching) of both the tables is a **FULL** join

40. All uncommitted data during the course of a transaction is stored in **REDO LOG buffer**

41. The precompiler used for SQL statements embedded in a C program is **Pro*C**

42. DBMS_OUTPUT is a **package** and PUT_LINE is a **function**

43. The 2 implicit variables available to a trigger that contain the row values before and after updates are **:new** and **:old**

44. The error codes for user defined error messages must lie between **-20000**, and **-20999**

45. **RAISE_APPLICATION_ERROR** statement terminates the PL/SQL block abruptly and displays the specified error message

46. A **NULL** value in the column indicates that the value is not applicable or currently not available

47. In the FOR UPDATE clause in cursors
A. Lock is not obtained on the rows fetched
B. All locks are released when COMMIT is issued
C. Locks for the rows processed before the COMMIT, are released D. Locks are released when the cursor is closed

48. If a User-defined Exception has the same name as a Predefined Exception
A. There is a compilation error
B. The User-defined Exception overrides the Predefined Exception
C. The Predefined Exception overrides the User-defined Exception D. None of the above

49. If a row is attempted to be fetched from an unallocated row in a PL/SQL table
A. A NULL value is returned
B. The VALUE_ERROR Exception is raised
C. The NO_DATA_FOUND Exception is raised
D. The value of the data returned cannot be predicted

50. Given this procedure

```
Procedure dept_salary
 (v_bonus IN BOOLEAN, v_raise IN BOOLEAN, v_issue_chk IN OUT BOOLEAN) IS
 BEGIN v_issue_chk := v_bonus OR v_raise;
 END;
```

If v_bonus = TRUE and v_raise = NULL, which value is assigned to v_issue_chk?
A. True B. False C. NULL D. None

51. You create a view with the following statement

CREATE VIEW COW_MILK_VW AS
(Select cow_name, milk_type from COW_MILK);

What will happen when a user attempts to INSERT a new cow_name and milk_type via this view?

A. The INSERT will fail.
B. The INSERT will succeed or fail based on whether the user can see the record once added.
C. The INSERT will succeed
D. The INSERT will succeed only if the user has the privilege to insert data
E. into the view.
F. The INSERT will succeed only if the user has the privilege to insert data
G. into the table.

52. Which of the following objects are dropped automatically when a table is dropped.

A. Procedure B. Constraints C. Views D.Synonyms

53. Consider the following four options from a single statement. Which of the following lines in the SELECT statement below contain an error.

A. SELECT DECODE (EMPID, 58385,'INACTIVE','ACTIVE') EMPID
B. FROM EMP
C. WHERE SUBSTR (LASTNAME, 1, 1) > TO_NUMBER ('S')
D. AND EMPID > 02000
E. ORDER BY EMPID DESC, LASTNAME ASC;

54. User 'Janko' would like to insert a row into the Emp table, which has 3 columns: empid, lastname, salary. The user would like to enter data for empid 59694, lastname Harry, but no salary. Which statement would work best.

A. INSERT INTO EMP VALUES (59694,'Harry', NULL);
B. INSERT INTO EMP VALUES (59694,'Harry');
C. INSERT INTO EMP (empid, lastname, salary) VALUES (59694,'Harry');
D. INSERT INTO EMP VALUES (Select 59694 from 'Harris');
E. INSERT INTO EMP(empid, lastname) VALUES (59694,'Harry');

55. Examine the trigger

```
CREATE OR REPLACE TRIGGER upd_team_salary FOR EACH ROW BEGIN
                    Update team
                    Set salary = tot_salary + :new.salary
 Where ID = :new.team_id;
END;
```

Which statement must be added to make this trigger execute after updating the salary column of player table

A. After update on player
B. After salary update of player
C. After update [salary] on player
D. After update of salary on player

56. For every new ballplayer added to the Player table, a record must be inserted into the Player_Bat_Stat table.
You have written a trigger to accomplish this task. To which timing will this trigger be assigned.
A. After B. Instead of C. Statement D. Pre-Insert

57. Which of the following is one of the benefits of using procedures and functions A. Procedures and functions increase the number of calls to the database.
B. Procedures and functions are reparsed for multiple users by exploiting shared SQL areas.
C. Procedures and functions avoid reparsing for multiple users by exploiting shared SQL areas.
D. Testing of procedures and functions requires the database to the restarted to clear out shared SQL areas for future access.

58. Overall logical structure of a database can be expressed graphically by A. ER diagram B. Records C. Relations D. Hierarchy

59. A table can have maximum no. Of Long Raw datatype columns
A. One B. No limit C. 255 D. depends on tablespace

60. A user is setting up a join operation between Emp and Dept tables. The query should return all the employees, which are assigned dept, as well as the employees which are yet not assigned any dept.
A. Select e.empid, d.head from emp e, dept d;
B. Select e.empid, d.head from emp e, dept d where e.deptno = d.deptno;
C. Select e.empid, d.head from emp e, dept d where e.deptno = d.deptno (+);
D. Select e.empid, d.head from emp e, dept d where e.deptno (+)= d.deptno;

61. Output from a table called PLAYS with two columns, PLAY_NAME and AUTHOR, is shown next. Which of the following SQL statements produced it?

```
PLAY_TABLE
-------------------------------------
"Midsummer Night's Dream", SHAKESPEARE
"Waiting For Godot", BECKETT
"The Glass Menagerie", WILLIAMS
```

A. select PLAY_NAME|| AUTHOR from PLAYS;
B. select PLAY_NAME, AUTHOR from PLAYS;

C. select PLAY_NAME||', ' || AUTHOR from PLAYS;
D. select PLAY_NAME||', ' || AUTHOR play_table from PLAYS;

62. Which of the following statements contains an error?
A. select * from EMP where EMPID = 493945;
B. select EMPID from EMP where EMPID = 493945;
C. select EMPID from EMP;
D. select EMPID where EMPID = 56949 and LASTNAME = 'SMITH';

63. Which of the following statements are NOT TRUE about ORDER BY clauses?
A. Ascending or descending order can be defined with the asc or desc keywords.
B. Only one column can be used to define the sort order in an order by clause.
C. Multiple columns can be used to define sort order in an order by clause.
D. Columns can be represented by numbers indicating their listed order in the select
E. clause within order by.

64. In order to perform an inner join, which criteria must be true?
A. The common columns in the join do not need to have shared values.
B. The tables in the join need to have common columns.
C. The common columns in the join may or may not have shared values.
D. The common columns in the join must have shared values.

65. A user is setting up a join operation between tables EMP and DEPT. There are some employees in the EMP table that the user wants returned by the query, but the employees are not assigned to department heads yet. Which SELECT statement is most appropriate for this user?
A. select e.empid, d.head from emp e, dept d;
B. select e.empid, d.head from emp e, dept d where e.dept# = d.dept#;
C. select e.empid, d.head from emp e, dept d where e.dept# = d.dept# (+);
D. select e.empid, d.head from emp e, dept d where e.dept# (+) = d.dept#;

66. Developer ANJU executes the following statement: CREATE TABLE animals AS SELECT * from MASTER.ANIMALS; What is the effect of this statement?
A. A table named ANIMALS will be created in the MASTER schema with the same data as the ANIMALS table owned by ANJU.
B. A table named ANJU will be created in the ANIMALS schema with the same data as the ANIMALS table owned by MASTER.
C. A table named ANIMALS will be created in the ANJU schema with the same data as the ANIMALS table owned by MASTER.
D. A table named MASTER will be created in the ANIMALS schema with the same data as the ANJU table owned by ANIMALS.

67. Which of the following is not a feature of a CURSOR FOR loop?
    A. Record type declaration B. Opening and parsing of SQL statements C. Fetches records from cursor D. Requires exit condition to be defined

68. Which line in the following statement will produce an error?
    A. cursor action_cursor is
    B. select name, rate, action
    C. into action_record
    D. from action_table;
    E. There are no errors in this statement.

69. You issue the following statement. What will be displayed if the EMPID selected is 60494? SELECT DECODE (empid,38475, 'Terminated',60494, 'LOA', 'ACTIVE') FROM emp;
    A. 60494 B. LOA C. Terminated D. ACTIVE

70. After executing an UPDATE statement, the developer codes a PL/SQL block to perform an operation based on SQL%ROWCOUNT. What data is returned by the SQL%ROWCOUNT operation?
    A. A Boolean value representing the success or failure of the update
    B. A numeric value representing the number of rows updated
    C. A VARCHAR2 value identifying the name of the table updated D. A LONG value containing all data from the table

71. A procedure declares a user-defined exception but does not raise it explicitly. Which of the following statements is true about this function?
    A. The user-defined exception will never be raised.
    B. The user-defined exception will be handled by a WHEN OTHERS exception handler.
    C. The procedure will fail on compile.
    D. The user-defined exception is defined incorrectly.

72. Which statement most accurately describes the result of not creating an exception handler for a raised exception?
    A. The program will continue without raising the exception.
    B. There will be a memory leak.
    C. Control will pass to the PL/SQL block caller's exception handler.
    D. The program will return a %notfound error.

73. Which three of the following are implicit cursor attributes?
    A. %found B. %too_many_rows C. %notfound D. %rowcount E. %rowtype

74. If left out, which of the following would cause an infinite loop to occur in a simple loop? A. loop B. end loop C. if-then D. exit

75. Which of the following is not a feature of a CURSOR FOR loop?
A. Record type declaration B. Opening and parsing of SQL statements
C. Fetches records from cursor D. Requires exit condition to be defined

76. Developer JANET receives an error due to the following statement in the DECLARATION section: PI CONSTANT NUMBER;. The problem is because:
A. There is not enough memory in the program for the constant.
B. There is no value associated with the constant.
C. There is no datatype associated with the constant.
D. PI is a reserved word.

78. The OTHERS exception handler is used to handle the OTHERS raised exception. A. TRUE B. FALSE

79. Which of the following statements are true about WHILE loops? A. Explicit exit statements are required in while loops.
B. Counter variables are required in while loops.
C. An if-then statement is needed to signal when a while loop should end.
D. All exit conditions for while loops are handled in the exit when clause.

80. Which line in the following statement will produce an error?
A. cursor action_cursor is B. select name, rate, action
C. into action_record D. from action_table;
E. There are no errors in this statement.

81. The command used to open a CURSOR FOR loop is
A. open B. fetch C.parse D. None, cursor for loops handle cursor opening implicitly.

82. After executing an UPDATE statement, the developer codes a PL/SQL block to perform an operation based on SQL%ROWCOUNT. What data is returned by the SQL%ROWCOUNT operation?
A. A Boolean value representing the success or failure of the update
B. A numeric value representing the number of rows updated
C. A VARCHAR2 value identifying the name of the table updated D. A LONG value containing all data from the table

83. A developer would like to use referential datatype declaration on a variable. The variable name is

EMPLOYEE_LASTNAME, and the corresponding table and column is EMPLOYEE, and LASTNAME, respectively.

How would the developer define this variable using referential datatypes?

A. Use employee.lname%type.
B. Use employee.lname%rowtype.
C. Look up datatype for EMPLOYEE column on LASTNAME table and use that.
D. Declare it to be type LONG.

84. The RAISE_APPLICATION_ERROR( ) procedure defines errors returned in which of the following numeric ranges?

A. -00000 and -99999 B. -01200 and -01299
C. -00030 and -00039 D. -20000 and -20999

85. When developing a PL/SQL library, the developer defines variable NUM2 as IN OUT in the ADD_NUMS( ) function. Which of the following statements may happen as a result of this? A. The add_nums( ) function will not compile.

B. Code running after add_nums( ) that uses the NUM2 variable may behave unpredictably because NUM2's value was changed in add_nums( ).
C. The add_nums( ) function will return errors to the user when run.
D. The add_nums( ) function will cause a memory leak.

86. In which areas of a PL/SQL block must the developer place code for user-defined exceptions? (Choose three)

A. Command line PL/SQL block call B. Variable declaration section
C. Executable section D. Exception handler

87. A procedure declares a user-defined exception but does not raise it explicitly. Which of the following statements is true about this function?

A. The user-defined exception will never be raised.
B. The user-defined exception will be handled by a WHEN OTHERS exception handler.
C. The procedure will fail on compile.
D. The user-defined exception is defined incorrectly.

88. Which of the following lines in the PL/SQL source code will return an error?

A. create procedure estatus (
B. eid NUMBER, statchar CHAR) is begin
C. select status into statchar from EMP where EMPID = eid; end; D. There are no errors in this code block

89. Which of the following trigger types will be impacted by constraining factors brought on by mutating tables?

A. Row triggers only B. Statement triggers only
C. Both row and statement triggers D. Neither row or statement triggers

90. The developer issues the following statement:

```
CREATE OR REPLACE TRIGGER soccer_fans_snacks_02 BEFORE DELETE ON SOCCER_FANS  BEGIN
DELETE FROM soccer_fans_snacks  END;      WHERE fan_id = :old.fan_id;
```

Why will trigger creation fail?

A. The row trigger does not properly reference the old value in FAN_ID.
B. The statement trigger should have been defined as a row trigger.
C. The statement trigger fires after the delete statement is processed.
D. The row trigger does not properly define the associated table

91. To find information about trigger status, which of the following views are appropriate?

A. ALL_TRIGGERS B. ALL_OBJECTS
C. ALL_TRIGGER_COLS D. ALL_SOURCE

92. UPDATE OR DELETE ON SOCCER_FAN_SNACKS. Which two of the following keywords may be useful in your trigger source code to distinguish what should run, and when?

A. inserting B. updating C. deleting D. truncating

93. The SOCCER_FANS table has a trigger associated with it that inserts data into SOCCER_FANS_SNACKS whenever rows are inserted into SOCCER_FANS. A foreign key constraint exists between FAN_ID on SOCCER_FANS and SOCCER_FANS_SNACKS. What happens when the trigger fires?

A. The trigger processes normally.
B. The trigger invalidates.
C. The trigger execution fails because of a mutating or constraining table.
D. The trigger execution succeeds because the trigger is a statement trigger.

94. The developer issues the following statement:

```
CREATE OR REPLACE TRIGGER soccer_fans_snacks_02 BEFORE DELETE ON
SOCCER_FANS FOR EACH ROW
BEGIN
        DELETE FROM soccer_fans_snacks
        WHERE fan_id = :prechange.fan_id;
END;
```

Why does the trigger fail on creation?

A. The statement trigger improperly references the changed row data.
B. The row trigger does not define prechange as the referencing keyword for old column values.
C. Row triggers cannot process before the triggering statement.
D. Statement triggers cannot process before the triggering statement.

95. Table SOCCER_FAN_SEAT contains two columns: FAN and SEAT_NUM.

A trigger is created in this table, whose triggering statement definition is AFTER UPDATE OF SEAT_NUM ON SOCCER_FAN_SEAT. You issue an UPDATE statement that changes column FAN only. Which of the following best describes what happens next?

a) The trigger fires successfully. b) The trigger fires unsuccessfully.
c) Nothing, the SEAT_NUM column was not updated. d) The trigger invalidates

96. The maximum length of varchar2 when used in PL/SQL block is
A. 16k B. **32k** C. 4k D. Either b or c

97. The max length of varchar2 when used in a table is
A. 16k B. 32k C. **4k** D. Either b or c

98. Any value added to NULL gives
A. the value itself. B. 0 C. **NULL** D. Unpredictable

99. The keys that can have NULL values are
A. Primary Key B. Unique Key
C. Foreign Key D. **Both b and c**

100. A Decision Support System (DSS) consists of
A. More DML, less DQL B. **More DQL, less DML**
C. Half DML, half DQL D. Only DML

101. The number of columns in a table is known as its
A. **Degree** B. Cardinality C. Domain D. Range

102. The clause(s) that every SQL Server query must have is/are
A. Select B. From C. Where D. Both (a) and (b)

103. System event triggers are always
A. Row level B. Table level **C. Schema level** D. Either (b) or (c)

104. Triggers can be written for
A. Insert, delete, update B. Create, alter, drop
C. Login, logout D. Both (a) and (b) **E. (a) , (b) and (c)**

105. Rollback and Commit affect
A. **Only DML statements** **B.** Only DDL statements
C. Both (a) and (b) D. All statements executed in SQL*PLUS

106. The NOWAIT option works for

A. **Implicit cursors only** **B.** Explicit cursors only C. Both (a) and (b) D. Neither (a) or (b)

107. The query associated with a cursor is executed in

A. Declare phase B. **Open phase**

C. Fetch phase D. Close phase

108. The INSTEAD OF trigger works at

A. **Row level** B. Table level C. Schema level D. Database level

109. The default parameter type in stored procedures is

A. **IN** B. OUT C. INOUT D. There is no default type

110. GRANT and REVOKE are

A. **DDL statements** B. DML statements

C. DCL statements D. None of these

111. The value of INSTR('CALIFORNIA','A',1,2) is

A. 2 B. 1 C. **10** D. 9

112. The correct syntax of DECODE statement is

A. DECODE(if1,then1,if2,then2,…….,else)

B. DECODE(if1,then1,else1,if2,then2,else2…….,)

C. DECODE(value,if1,then1,else1,if2,then2,else2…….,) D. **None of these**

113. Consider the following where clause WHERE A.no=B.no(+)

The above outer join lists

A. All matching & non-matching rows of table B

B. **All matching & non-matching rows of table A**

C. All non-matching rows of table B

D. All non-matching rows of table A

114. TRUNCATE TABLE statement

A. Drops a table temporarily B. **Removes all rows of a table**

C. Removes specified number of rows from a table D. Removes all constraints from a table

115. Consider a table OLD with few rows. The statement
CREATE TABLE new AS SELECT * FROM OLD WHERE 1=2

A. copies all the rows from OLD to NEW
B. creates a dummy NEW table
C. (c) **creates an empty NEW table with column definitions same as OLD** D. (d) creates a table NEW that acts as a synonym for OLD

116. In a query with a GROUP BY clause, the columns in the SELECT clause

A. must be aggregate functions only
B. must also appear in the GROUP BY clause
C. must also appear in the GROUP BY and HAVING clauses
D. **Both (a) and (b)**
E. Can be selected arbitrarily

117. The name of the only column in the DUAL table is

A. X B. C D. **DUMMY** D. None of these

118. TNS in the file tnsnames.ora stands for

A. **Transparent Network Substrate** B. Transport Network Substrate
C. Transparent Network System D. Transparent Network Server

119. Comments in a PL/SQL code are inserted using

A. – B. /* */ C. **Both (a) and (b)** D. #

120. The CHAR and NCHAR data types

A. have no difference
B. **belong to two different character sets**
C. have different storage requirements
D. have different storage requirements and retrieval time

121. Consider a table TAB with a single row
NAME
CHARRIS
Then, the query
SELECT SUBSTR(Name,-3) FROM TAB gives

A. **RIS** B. CHA C. ARRIS D. ARR

122. The wild card character % used in strings means

A. **any number of characters** B. one or more characters
C. at least one character D. at least one alphabet

123. In an RDBMS, another word for Column is _____.
A. Row B. Tuple **C. Attribute**

124. _____ is the fastest RDBMS. D. Applet
a. Oracle **B. Informix** C. Progress D. MS SQL Server

125.. For an Oracle user, the privilege to access the tables of other users is known as _____.
A. Object level security B. Command level security
C. Logging in security D. File level security

126. _____ is used for taking backups of table data.
A. IMP B. SQL*Loader C. Oraterm **D. EXP**

127. Music videos can be stored in a _____ datatype.
A. Long **B. Long raw** C. Raw D. Varchar2

128. Null value has an ASCII value of _____.
A. 0 B. 32 C. 64 D. 255

129. In a SELECT statement, the WHERE clause is used to retrieve rows from _____.
A. Server RAM to client end B. Server RAM to server disk **C. Server disk to server RAM** D. Client RAM to server end

130. Logical operator _____ has higher precedence than OR.
A. NOT B. AND **C. Both of the above** D. None of the above

131. _____ is used for importing data from other RDBMS into Oracle.
A. IMP **B. SQL*Loader** C. Oraterm D. EXP

132. The component of SQL that is used for inserting rows in tables is known as _____.
A. DDL **B. DML** C. DCL D. DQL

133. The component of SQL that is used for granting and revoking privileges is known as _____.
A. DDL B. DML **C. DCL** D. DQL

134. Which one of the following is an invalid table name?
A. EMP_2008 B. Emp_2008 C. emp_2008 **D. 2008_EMP**

135. In Oracle, you can have a maximum of _____ columns per table.

A. 1000 B. 254 C. 255 D. 256

136. To suppress the duplicate values, you can use the keyword _____.
A. Distinct B. Unique **C. Either of the above** D. None of the above

137. Each table is perceived as
A. a flat structure. **B. a two-dimensional structure.** C. a linked structure. D. None of the above

138. Which one is a TCL (or DTL) statement?
A.update B.Truncate C.Alter **D. RollBack**

139. _____ is used to set the keyboard mapping in Oracle.
A. Key-Function **B. Oraterm** C. Oramap D. SQL*Loader

140. Which of the following is NOT a type of SQL statement?
A. DDL B. DCL **C. DNL** D. DML

141. Which of the following statement contain an error?
A. Select * from EMP where EMPNO=493945;
B. Select EMPNO from EMP where EMPNO=493945;
C. Select EMPNO from EMP;
D. **Select EMPNO where EMPNO = 56949 and LASTNAME='SMITH';**

142. Maximum size of RAW datatype is ----------
A. 255 bytes **B. 2000 bytes** C. 225 bytes D. 1234 bytrs

143. The transaction control that prevents more than one user from updating data in a table is called _____.
A. **Locks** B. Commits C. Rollbacks D. Savepoints

144. Which of the following has the same meaning as <>?
A. <= B. := **C. !=** D. =>

145. The max length of varchar2 when used in table is
A. 16000 B. 32000 **C. 4000** D. Either 2. Or 3.

146. Oracle 11g can be best described as
A. Object-based DBMS B. Object-oriented DBM
C. Object-Relational DBM D.Relational DBMS

147. Oracle 11g runs on
A. Windows NT B. UNIX C. Solaris **D. (a), (b) and (c)**

148. _____ holds the definitions of all of the data tables.
A. database B. **data dictionary** C. data source D. data mining

149. The ____ operator is used for pattern matching.
A. DISTINCT B. **LIKE** C. GROUP BY D. ORDER BY

150. Which of the following is invalid rollback statement in oracle?
A. ROLLBACK; B. ROLLBACK WORK;
C. **ROLLBACK TO SAVEPOINT A;** D. None of the above

151. Omitting the WHERE clause from a DELETE statement has which of the following effects? A. The delete statement will fail because there are no records to delete.
B. The delete statement will prompt the user to enter the criteria for the deletion.
C. The delete statement will fail because of syntax error.
D. **The delete statement will remove all records from the table.**

152. When char datatype is converted to Varchar2 data type of same width then
A. All the blank spaces associated with that column value are removed.
B. **All the blank spaces associated with that column value will remain.**
C. It is not possible to convert the character to varchar2 data type.
D. None of the above

153. CHR function
A. **Accepts a number & returns the character** B. Accepts a character & returns the number
C. Accepts a number & returns the number D. None of the above

154. A COMMIT statement
A. **Saves the previous changes** B. Saves the changes for the current session
C. Saves the changes for all sessions D. None of the above

155. Select ' " ' || SUBSTR('happybirthday',-4,6)||' " ' from dual;
What is the output of the above statement?
A. "happyb" B. "ybirth" C. Statement generates an error D. **"hday"**

156. Which function will NOT automatically return NULL if passed a NULL argument ?
A. TRUNC B. INSTR C. **REPLACE** D. TRANSLATE

157. The character used for concatenating strings in Oracle is
A. **&&** B. + C. || D. None of these

158. How many columns are presented after executing this query:
SELECT address1||','||address2||','||address2 "Address" FROM employee; A. 3 B. 2 C. **1**
D. ERROR

159. Choose the Incorrect option related to DBMS
A. There is no Security of data B. Not support distributed database C. **satisfy more than 8 rule of Dr. E.F. Codd** D. None

160. Choose the correct pattern Matching sign for matching a single character.
A. _ B. ? C. * D. %

161. EDIT or ED command places the contents of the query buffer in a file named _____ by default
A. AFEIDT.BUF B. ATFIED.BUF C. **AFIEDT.BUF** D. AETIED.BUF

162. INITCAP(cdac) returns
A. Cdac B. CDAC C. cdac D. **Cdac**

163. The DUAL table has
A. One row many columns C. One column and many Rows
C. **One row and One Column** D. Many Rows and many columns

164. _____ makes a string of certain length by adding a certain set of characters to the left A. LTRIM B. **LPAD** 3. SUBSTR 4. INSTR

165. SQL command can be terminated by _____.
A. semicolon B. slash C. blank line D. **All of the above**

166. DESCRIBE is an _____ command.
A. SQL B. **SQL*Plus** C. PL*SQL D. Forms 6i

167. In Oracle, the upper limit for nested functions is upto _____ levels.
A. 0 B. 32 C. 64 D. **255**

168. Wildcards used for pattern matching are _____.
A. * and ? B. $ and # C. @ and ! D. **% and _**

169. _____ functions can be used to make your queries case-insensitive.
A. **Upper and lower** B. Lpad and rpad C. Ltrim and rtrim D. Replace and translate

170. Which of the following is not a group function?
A. Avg( ) B. **Sqrt( )** C. Sum( ) D. Max( )

171. The value of INSTR('CALIFORNIA','A',1,2) is _____ .
A. 2 B. 1 C. **10** D. 9

172. The SQL query to retrieve current time in Oracle is _____
A. Select SysTime from dual;
B. Select SysDate from dual;
c. **Select TO_CHAR (SysDate,'HH:MI:SS') from dual;**
d. Select TO_CHAR (SysDate,'HH:MM:SS') from dual;

173. To lock the rows of a table manually, you can use a Select statement with the _____ clause. A. **For Update** B. For Delete C. For Insert D. For Lock

174. _____ function can be used to make character column data as right-justified.
A. **Lpad** B. Rpad C. Ljustify D. Rjustify

175. Nesting of _____ functions is allowed.
A. Date B. List C. Aggregate D. **All of the above**.

176. The correct syntax of DECODE statement is
A. DECODE(if1,then1,if2,then2,…….,else)
B. DECODE(if1,then1,else1,if2,then2,else2….,)
C. DECODE(value,if1,then1,else1,if2,then2,else 2…….,)
D. **None of the above**

177. Which of the following is not a number function?
A. sinh( ) B. **to_number( )** C. sqrt( ) D. round( )

178. Which line in the following SELECT statement will produce an error?
A. select dept, avg(salary) B. from emp
C. **group by empid;** D. No errors in this statement

179. Which of the following is the correct order of precedence of SQL clauses?
A. HAVING, GROUP BY, WHERE B. **WHERE, GROUP BY, HAVING**
C. GROUP BY, HAVING, WHERE D. HAVING, WHERE, GROUP BY

180. Fill in the blank with a numeric function to get 15 as the output. SELECT _____(-15) "Absolute" FROM DUAL;

A. FLOOR B. MOD C. EXP D. **ABS**

181. Which of the following is NOT a GROUP function?

A. **LENGTH()** B. AVG() C. MAX() D. COUNT()

182. Which of the following SOL functions is used to display the current session date and time?

A. DATE B. TO_DATE C. **SYSDATE** D. CURRDATE

183. Which of the following is the correct syntax for using the HAVING clause?

A. SELECT (column_name)
HAVING (function condition)
GROUP BY (column_name)
FROM (entity_name);

B. **SELECT (column_name) FROM (entity_name)**
GROUP BY (column_name)
HAVING (function condition);

C. SELECT (column_name)
FROM (entity_name)
HAVING (function condition)
GROUP BY (column_name);

D. SELECT (column_name)
HAVING (function condition)
FROM (entity_name)
GROUP BY (column_name);

184. Which of the following SQL functions can operate on any datatype?

A. TO_CHAR B. LOWER C. LPAD D. **MAX**

185.The NVL( ) function

A. Assists in distribution of output across multiple columns.
B. Allows you to specify alternate output for non-NULL column values.
C. **Allows you to specify alternate output for NULL column values.**
D. Nullifies the values of the column output.

186. Which function can be categorized as similar in function to an IF-THEN-ELSE statement?
A. sqrt( ) B. **decode( )** C. new_time( ) D. rowidtochar( )

187. Which of the following uses of the HAVING clause are appropriate?
A. To put returned data into sorted order.
B. To execute certain data groups based on known criteria.
C. To include certain data groups based on unknown criteria.
D. **To include certain data groups based on known criteria**

188. Months_between returns ----------
A. **a number** B. a character C. a date D. a month

189. Which of the following is not a group function.
A. **LTRIM** B. MAX C. MIN D. STDDEV

190. Select CEIL(MOD(POWER(2,3), FLOOR(3.5))) from dual; What is the result of the above statement?
A. 0 B.1 C. **2** D. 4

191. _____ makes a string of certain length by adding a certain set of characters to the left
A. LTRIM B. **LPAD** C. SUBSTR D. INSTR

192. SQL command can be terminated by _____.
A. semicolon B. slash C. blank line D. **All of the above**

193. In an RDBMS, another word for Column is _____.
A Row B Tuple C **Attribute** D Applet

194. The default value of linesize is _____.
A. 14 B. 25 C. 66 D. **80**

195. A Cartesian product is
A. A group function
B. **Produced as a result of a join select statement with no clause**
C. The result of fuzzy logic
D. A special feature of oracle server

196. Consider the following where clause
WHERE A.no=B.no(+)
The above outer join lists….
A. All matching & non-matching rows of table B

B. **All matching & non-matching rows of table A**
C. All non-matching rows of table B
D. All non-matching rows of table A

197. Which one of the following statements about oracle's set operators is incorrect:
A. UNION - Combine the unique rows returned by 2 SELECT statements
B. UNION ALL - Combine the rows returned by 2 SELECT statements (including all duplicates)
C. INTERSECT - Return only those rows that are in both SELECT statements
D. **EXCEPT - Return the rows that are in the first SELECT but not the second**

198. To alter the Oracle prompt for accepting input from the keyboard, one an A. Change the prompt in the config.ora file.
B. **Use the prompt clause of the accept command.**
C. Enter a new prompt in the login.sql file.
D. There is no way to change a prompt in Oracle.

199. The default character for specifying substitution variables in SELECT statements is
A. **Ampersand** B. Ellipses C. Quotation marks D. Asterisk

200. Evaluate the SQL statements
CREATE TABLE dept (dept_id NUMBER (2), dname VARCHAR2 (14), Loc VARCHAR2 (13));
ROLLBACK;
DESCRIBE DEPT
What is true about the statements?
A .The ROLLBACK statement frees the storage space occupied by the DEPT table.
B The DESCRIBE DEPT statement returns an error.
C The DESCRIBE DEPT statement displays the structure of the DEPT table only if there is a COMMIT statement introduced before the ROLLBACK statement.
D. **The DESCRIBE DEPT statement displays the structure of the DEPT table**

201. If five tables are given & three join conditions are given & select Query is applied then what will happen?
A. Cartesian product of first 3 tables
B. **Three joins make relation between four tables & keep the fifth independent**
C. We cannot apply 3 joins on 5 tables
D. None of above

202.The RAW datatype stores what type of data?
A. Character data B. **Binary data** C.Numeric data D. ASCII data

203.In a correlated query

A. The inner query fires first

B. The outer query fires first

C. **inner query fires for every row returned by outer query**

D. no order

204. A user is setting up a join operation between Emp and Dept tables. The query should return all the employees, which are assigned a dept, as well as the employees which are yet not assigned any dept.

A. Select e.empid, d.dname from emp e, dept d;

B. Select e.empid, d.dname from emp e, dept d where e.deptno = d.deptno;

C. **Select e.empid, d.dname from emp e, dept d where e.deptno = d.deptno (+);** D. Select e.empid, d.dname from emp e, dept d where e.deptno (+)= d.deptno

205. The limit of level of nesting is _____ subqueries in SQL

A. 255 B. 1024 C. 1000 D. 2000

206. Which is not a Set operator?

A. Union B. Intersect C. **Join** D. Minus

207. How many types of joins are there?

A. 3 B. 6 C. **5** D. 4

208. Which of the following is auto committed?

A. insert B. delete C. update D. **truncate**

209. Which SQL commands are used to create, modify and delete database structure but not data?

A. **DDL** B. DML C. DCLD. D. QL

210. Which of following is not a set operator?

A. union B. union all C. **subtract** D. Intersect

211. The join which performs Cartesian product is called _____.

A. Left join B. Left outer join C. Right outer join D. **Cross join**

212. Which of the following queries can you use to search for employees with the pattern 'A_B' in their names?

A. SELECT last_name FROM employees WHERE last_name LIKE '%A_B%';

B. SELECT last_name FROM employees WHERE last_name LIKE '%A_B%';

C. SELECT last_name FROM employees WHERE last_name LIKE 'A_B%' ;

D. **SELECT last_name FROM employees WHERE last_name LIKE '%A_B%';**

213. Which of the following correctly shows the correct use of the TRUNC command on a date?
A. SELECT TRUNC(TO_DATE(12-Feb-99,DD-MON-YY, 'YEAR')) "Date " FROM DUAL;
B. TRUNC = TO_DATE('12-Feb-99','DD-MON-YY'), 'YEAR', "Date " FROM DUAL;
C. **SELECT TRUNC(TO_DATE('12-Feb-99','DD-MON-YY'), 'YEAR') "Date " FROM DUAL;** D. date = TRUNC(TO_DATE('12-Feb-99','DD-MON-YY'), 'YEAR') "Date " FROM DUAL

214. Evaluate this SQL statement: SELECT e.employee_id, (.15* e.salary) + (.5 * e.commission_pct) + (s.sales_amount * (.35 * e.bonus)) AS CALC_VALUE FROM employees e, sales WHERE e.employee_id = s.emp_id; What will happen if you remove all the parentheses from the calculation?
A. The value displayed in the CALC_VALUE column will be lower.
B. The value displayed in the CALC_VALUE column will be higher.
C. **There will be no difference in the value displayed in the CALC_VALUE column.**
D. An error will be reported.

215. The EMPLOYEES table contains these columns: EMPLOYEE_ID NUMBER(4) ENAME VARCHAR2 (25) JOB_ID VARCHAR2(10) Which SQL statement will return the ENAME, length of the ENAME, and the numeric position of the letter "a" in the ENAME column, for those employees whose ENAME ends with a the letter "n"?
A. **SELECT ENAME, LENGTH(ENAME), INSTR(ENAME, 'a') FROM EMPLOYEES WHERE SUBSTR(ENAME, -1, 1) = 'n';**
B. SELECT ENAME, LENGTH(ENAME), INSTR(ENAME, ,-1,1) FROM EMPLOYEES WHERE SUBSTR(ENAME, -1, 1) = 'n';
C. SELECT ENAME, LENGTH(ENAME), SUBSTR(ENAME, -1,1) FROM EMPLOYEES WHERE INSTR(ENAME, 1, 1) = 'n';
D. SELECT ENAME, LENGTH(ENAME), SUBSTR(ENAME, -1,1) FROM EMPLOYEES WHERE INSTR(ENAME, -1, 1) = 'n';

216. You would like to display the system date in the format "Monday, 01 June, 2001". Which SELECT statement should you use?
A. SELECT TO_DATE (SYSDATE, 'FMDAY, DD Month, YYYY') FROM dual;
B. SELECT TO_CHAR (SYSDATE, 'FMDD, DY Month, YYYY') FROM dual;
C. **SELECT TO_CHAR (SYSDATE, 'FMDay, DD Month, YYYY') FROM dual;** D. SELECT TO_CHAR (SYSDATE, 'FMDY, DDD Month, YYYY') FROM dual;

217. Which is an SQL*Plus command?
A. INSERT B. UPDATE C. SELECT D. **DESCRIBE**

218. Which SELECT statement should you use to extract the year from the system date and display it in the format "1998"?
A. **SELECT TO_CHAR(SYSDATE, 'yyyy') FROM dual;**
B. SELECT TO_DATE(SYSDATE, 'yyyy') FROM dual;

C. SELECT DECODE(SUBSTR(SYSDATE, 8), 'YYYY') FROM dual;
D. SELECT DECODE(SUBSTR(SYSDATE, 8), 'year') FROM dual;

219. Evaluate this SQL statement: SELECT ename, sal, 12*sal+100 FROM EMP; The SAL column stores the monthly salary of the employee. Which change must be made to the above syntax to calculate the annual compensation as "monthly salary plus a monthly bonus of $100, multiplied by 12"? A. No change is required to achieve the desired results.
B. **SELECT ename, sal, 12*(sal+100) FROM emp;**
C. SELECT ename, sal, (12*sal)+100 FROM emp;
D. SELECT ename, sal+100,*12 FROM emp;

220. Which describes the default behavior when you create a table? A. The table is accessible to all users.
B. Tables are created in the public schema.
C. **Tables are created in your schema.**
D. Tables are created in the DBA schema.

221. Evaluate the SQL statement: SELECT ROUND (TRUNC (MOD (1600, 10),-1), 2) FROM dual; What will be displayed?
A. **0** B. 1 C. 0.00 D. an error statement

222. You added a PHONE-NUMBER column of NUMBER data type to an existing EMPLOYEES table. The EMPLOYEES table already contains records of 100 employees. Now, you want to enter the phone numbers of each of the 100 employees into the table some of the employees may not have a phone number available. Which data manipulation operation do you perform?
A. MERGE B. INSERT C. **UPDATE** D. ADD

223. You define a multiple-row subquery in the WHERE clause of an SQL query with a comparison operator"=" What happens when the main query is executed?
A. the main query executes with the first value returned by the subquery
B. the main query executes with the last value returned by the subquery
C. the main query executes with all the values returned by the subquery
D. **The main query fails because the multiple-row subquery cannot be used with the comparison operator.**

224. A subquery can be used to _____.
A. create groups of data
B. sort data in a specific order
C. convert data to a different format
D. **retrieve data based on an unknown condition**

225. You need to display the last names of those employees who have the letter "A" as the second character in their names. Which SQL statement displays the required results?

A. SELECT last_name FROM EMP WHERE last_name LIKE'_A%;
B. **SELECT last_name FROM EMP WHERE last name='*A%**
C. SELECT last_name FROM EMP WHERE last name ='* _A%;
D. SELECT last_name FROM EMP WHERE last name LIKE '* a%

226. How should a many-to-many relationship be handled?

A. By adding an join table
B. **By adding an intersection table**
C. By adding union table
D. By adding Cartesian table

227. PL/SQL is a _____ GL.

A.1 GL B.2 GL C.3 GL **D.4 GL**

228. When you create a variable in PL/SQL that has not been initialized, it stores a _____ value.

A.Blank B.0 C.**Null** D.Garbage

229. Datatype conversion from number to _____ is implicit.

A.Date **B.Char** C.Boolean D.Raw

230. The if elsif else end if construct is similar to _____ function of SQL.

A.Decode B. Round C.Trunc D.Sign

231. In PL/SQL, we can use _____ for single line comment.

A.** B.- - C.\\ D.||

232. In PL/SQL, A _____ variable can store a logical true or false value.

A. Char B. Binary C. **Boolean** D. Logical

233. In PL/SQL, the _____ loop variable need not be declared.

A. While B. Do While C. Infinite D. **For**

234.Which of the following statements is true about while loops?

A. Explicit exit statements are required in while loops.
B. **Counter variables are required in while loops.**
C. An if-then statement is needed to signal when a while loop should end.
D. All exit conditions for while loops are handled in the exit when clause.

235. Comments in a PL/SQL code are inserted using

A. - - B. /* */ C. **Both (1) and (2)** D. #

236. Which of the following is true?

A. For nested blocks an object defined in a parent block is available within all its child blocks (nested blocks).
B. The reverse is not true; objects defined in a child block are not visible to the parent.
C. If a nested block defines an object with the same name as an object in its parent block then only the local object is visible.
D. **All of the above**

237. Consider the following PL/SQL block:

```
DECLARE v_itemcode warehouse.
item_code % TYPE; v_ordered
warehouse.order_id% TYPE;
v_shipdate warehouse.shipdate_id%
TYPE;
BEGIN
SELECT item_code, order_id, v_shipdate INTO  v_itemcode,
v_ordered
FROM WAREHOUSE
WHERE Quantity >=500;
END;
```

What will be the result upon execution of this block?

A. The block will be execute without any error.
B. An error is caused by the declaration of v_orderid.
C. An error is caused by the WHERE clause.
D. **An error is caused by the INTO clause.**

238. The PL SQL blocks can contain _____ & _____ statements

A.DML,DCL **B.** DML,DDL C. GRANT,REVOKE D. **TCL,DML**

239.
```
begin
        for i in 3..1 loop        dbms_output.put_line(i);
          for j in 1..3 loop            dbms_output.put_line(j);
          end loop;
    end loop;
     end;
    /
```

What is the output of the sample code above assuming SETSERVEROUTPUT is set ON?

A. **3,1,2,3,2,1,2,3,1,1,2,3**
B. 1,1,2,3,2,1,2,3,3,1,2,3,
C. 1,1,2,3
D. Nothing is printed

240. Which of the following describes the concept of composite data type?
   A. A composite data type is a variable that is comprised of multiple datatypes and can hold multiple rows of data.
   B. **A composite datatype is a type that is comprised of multiple datatypes.**
   C. A composite data type is a type that can hold multiple rows of data.
   D. A composite datatype is a variable object that can hold multiple rows.

241. DECLARE v_total_records
stats_tab.t_recs%TYPE;
BEGIN
SELECT COUNT(*)
INTO v_total_records
FROM records_tab;
DBMS_OUTPUT.PUT_LINE('Total records
found:||v_total_records'); END;
/
Why will the sample call to DBMS_OUTPUT above NOT show the total records in the RECORDS_TAB table?
   A. DBMS_OUTPUT will only work in a stored procedure, function, or package.
   B. The call to the PUT_LINE procedure is not syntactically correct.
   C. DBMS_OUTPUT can only be used from within a function(anonymous, stored, or client-side).
   D. **The variable is treated as literal string**

242. _____ is a compulsory section of a PLSQL block.
   A. Declaration section marked by the keyword DECLARE
   B. **Executable section marked by the keyword BEGIN …. END**
   C. Exception section marked by the keyword EXCEPTION D.All of the above

243._____ is used to declare a variable X based on EMPNO column of EMP table. A. Empno%type X
   B. Emp.Empnop%type X
   C. X(Emp.Empno%type)
   D. **None of the above**

244. _____ is used to declare a composite variable X which has as many columns as in the table EMP
A.X Emp%tabletype
B.X Emp%rowtype
C.X Emp
D. Emp X

245. In _____ loop, the variable CTR is implicitly created by oracle
A. FOR CTR in 1..10 loop ---------- end loop

B.WHILE CTR<=10 loop ---------- end loop
C.LOOP ---------- exit when <condition(s)
end loop D. All of the above

246. In _____ loop, the variable CTR is incremented/decremented implicitly by oracle
A.FOR CTR in 1..10 loop ---------- end loop B.WHILE
CTR<=10 loop ---------- end loop C.LOOP --------
---------- exit when <condition(s) end loop D. All
of the above

247. _____ loop if used properly can be used to ensure that the statements within the loop are executed iteratively but at least once.
A. loop .. end loop;
B. While loop …….end loop;
C. for I in 1..10 loop …… end loop;
D. All of the above

248. The concept of Labels in a PLSQL block can be used to _____
A. Differentiate between variables with the same name in nested loop or nested blocks
B. Divert the course of execution of the program to a specific point rather than the normal course of flow **C. Both option a and b**
D. Neither a nor b

249. The attribute to declare a variable according to another previously declared variable or database column.
A.%ROWTYPE **B.%TYPE** C.%DATATYPE D.%VARIABLE
250. Identifiers in PLSQL can contain upto _____ characters.
A.255 B.**30** C.1000 D. none

251. Dropping a table has the following effects on a non-unique index created for the table.
A. No effect
B. **The index will be dropped**
C. The index will be rendered invalid
D. The index will contain NULL values

252. An oracle – defined exception is raised
A. By the PL/SQL raise statement
B.. In the PL/SQL exception handler
C. Automatically by oracle
D.. By the user

253. The command used to open a CURSOR FOR loop is
A.Open B.Fetch C. Parse **D. None of the above**

254. Which line in the following statement will produce an error?
   A. cursor action_cursor is
   B. select name, rate, action
   C. **into action_record**
   D. from action_table;

255. The NOWAIT option works for
   A. Implicit cursors only
   B. **Explicit cursors only**
   C. Both (1) and (2)
   D. Neither (1) or (2)

256. The query associated with a cursor is executed in
   A. Declare phase **B. Open phase** C. Fetch phase D. Close phase

257. Which statement most accurately describes the result of not creating an exception handler for a raised exception? A. The program will continue without raising the exception
   B. There will be a memory leak
   C. **Control will pass to the PL/SQL block caller's exception handler.** D. The program will return a %notfound error

258. When we combine multiple columns in a single index, it is known as a _____ index. **A. Composite** B. Multiple **C**. Multicol D. Complicated

259. Which of the following is true?
   A. An exception is a named error condition in a Pl/SOL program.
   B. PL/SQL program can define their own exceptions.
   C. Exception handlers are program blocks that Handle error conditions.
   D. **All of the above.**

260. In PL/SOL if you need to deal with a group of rows, then you must place returned data into
   A. Select statement **B. Cursors** C. into clause D. Code storage

261. In Explicit cursors the _____ attribute returns the number of rows fetched from the active set.
   A. SQL %FOUND B. SQL %ROW **C. SQL %ROWCOUNT** D. SQL %COUNT

262. Which of the following database objects stores table column data and row reference information?
   A. Tables B. Sequences C. **Indexes** D. Views

263. Fetching past the last row of a cursor
   A. Raises the NO_DATA_FOUND Exception
   B. Raises the VALUE_ERROR Exception
   C. Raises the CURSOR_NOT_FOUND Exception
   D. **Does not raise an exception**

264. The attribute _____ indicates whether a FETCH statement returns a row from the active set .
A. %isfound B. %notpresent **C. %notfound** D. %isopen

265. Values in table BOX_RCPT_TAB

ID	RECEIPT_DT
100	09-JAN-98
101	08-JAN-98
102	09-JAN-98

```
DECLARE
    v_id     NUMBER(2);
BEGIN
   SELECT id
       INTO v_id
      FROM box_rcpt_tab
       WHERE receipt_dt = '08-JAN-98';
END;
/
```

Which exception will be raised by the statement above?
A. INVALID_NUMBER B. TOO_MANY_ROWS C. **VALUE_ERROR** D. NO_DATA_FOUND

266. What is a PRAGMA?
A. A conversion function
B. A composite data type
C. **A pre-compiler directive**
D. A utility program used to extract data into flat files.

267. The _____ statement retrieves the current row and advances the cursor to the next row.
A. SET B. GET C. MOVE D. **None of the above**

268. What is the PRAGMA exception_init used for ?
A. To declare an exception
B. **To associate an exception name with an exception number.**
C. To handle exception
D. To associate a function with an exception number.

269. _____ is the name of the Implicit cursor created by Oracle in a PLSQL block
A. Oracle B.PLSQL **C.SQL** D. Cursor

270. _____ is the type of cursor used for DML statements within a PLSQL block **A.IMPLICIT** B.EXPLICIT
C.both IMPLICIT and EXPLICIT
D.neither IMPLICIT and EXPLICIT

271. _____ is the type of cursor used for SELECT statements in a PLSQL block which return more than one row

A. Explicit B. Implicit C. Both Explicit and Implicit D. Neither Explicit nor Implicit

272. _____ is the sequence of steps for handling Explicit cursors

A. Declare--Fetch and Process Iteratively--Open—Close

B. Declare—Open--Close-- Fetch and Process Iteratively

C. **Declare--Open--Fetch and Process Iteratively--Close**

D. Open—Declare--Fetch and Process Iteratively—Close

273. The _____ step actually executes the SELECT query associated with an Explicit cursor

A. Declare **B. Open** C .Fetch D. Close

274. _____ is the valid syntax for a Cursor For Loop.

A.While EREC in <Cursorname> loop ------ end loop

B.EREC in <Cursorname> loop ------ end loop

C.IF EREC in <Cursorname> then ------ end if

D.For EREC in <Cursorname> loop ------ end loop

275. Using a Cursor For Loop does not require explicit

A. Open B. Fetch C. Close D**. All of the above**

276_____ is not a Explicit Cursor attribute

A. %Open B. %Found C. %NotFound D. %rowcount

277. _____ is an explicit cursor attribute which does not return a Boolean value

A. %Open B. %Found C. %NotFound **D. %rowcount**

278._____ is an explicit cursor attribute which can be used to exit from a Cursor loop after certain number of rows in the cursor have been processed

A. %Open B. %Found C.%NotFound **D.%rowcount**

279. Actual values for parameterized cursors have to passed at the time of _____ the cursor.

A.Declaring **B. Opening** C.Fetching (values from the cursor) D.Closing

280. To open an already opened explicit cursor, you need to first _____ the cursor

A . Redeclare B. Fetch from C. Reopen **D. Close**

281. _____ option can be used with the query of the cursor to obtain a lock on the rows opened by the cursor

A FOR LOCK **B.FOR UPDATE** C.FOR CHANGE D.FOR EXPLICIT

282. _____ clause can be used with the clause to obtain a lock to return an error in case you cannot get a lock.

A GiveError **B.NOWAIT** C.WAIT D. Error

283. In case a lock is requested for, in the cursor's query, the lock is actually achieved when you _____ the cursor.
A Declare **B. Open** C .Fetch(from the cursor) D. Close

284. _____ option can be used with an Update/Delete command to update/delete the row from the table through the corresponding row in the cursor to avoid a possible table scan.
A.Where Current of <cursorname>
B.Where Current of <tablename>
C.Where Current of Row
D.Where Current of Thisrow

285. _____ is an Oracle Pre-Defined exception.
A **No_Data_Found** B. Found_No_Data C. Data_Not_Found D.No_data

286. _____ type of exceptions have to be explicitly raised
A.Oracle Pre-defined B. Oracle Non-Pre-defined **C. User-defined** D. All of the above

287. _____ is an Exception-handler which can handle unhandled exception
A When All **B. When Others** C. When Any D. When Exception

288. _____ is a false statement.
A.Begin the Exception-handling section with the EXCEPTION Keyword
B.Define the required number of exception-handlers, each with it's own set of actions
C.When an exception occurs, PL SQL processes only one Exception-handler before leaving the block **D.Place the OTHERS clause before all the other exception-handlers**

289. The _____ utility tells the compiler to associate an exception name with an Oracle error number
A.PRAGMA INIT_EXCEPTION
B.PRAGMA EXCEPTION_INITIALISE
C.PRAGMA EXCEPTION_INIT
D.PRAGMA EXCEPTIONINIT

290. _____ returns the numeric value for the error code in PLSQL.
A.SQLERRM B.SQLERRCODE C.SQLERR **D.SQLCODE**

291. _____ returns the message associated with an error code in PLSQL.
A.SQLERRM B.SQLERRMSG C.SQLMSG D.SQLCODE

292. When an exception occurs in a PLSQL block and it is handled, the block is said to _____
A Complete **B. Terminate with success** C. Terminate with failure D. Neither of the above

293. When an exception occurs in a PLSQL block and it is handled, the uncommitted DMLs in the block _____
A.are implicitly rolled back

B.are implicitly committed
C.can be committed or rolled back as per requirement
D.Have to be committed, else they are rolled back

294. A field, or a combination of fields, that has a unique value is a _____. A. foreign key B**. primary key** C. relation 4. Table

295. _____ holds the definitions of all of the data tables.
A database **B. data dictionary** C. data source D. data mining

296. If you delete a row in a table, and Oracle deletes the related entries in all other tables. This is known as _____.
A.Referential Integrity B. Deleting rows C. Data Integrity **D. Cascading delete**

297. The RAISE_APPLICATION_ERROR( ) procedure defines errors returned in which of the following numeric ranges? A.. –00000 and –99999
B. –01200 and –01299
C. –00030 and –00039
D. **–20001 and –20999**

278. The default parameter type in stored procedures is _____. **A. IN**
B. OUT C. IN OUT D. There is no default type

299. . Denormalization is needed:
A. to utilize disk space efficiently
B. **to speed up data access**
C. to optimize update operation
D. All of the above

300. Developer ANJU executed the following statements:
create table animals as select * from Master.animals;
What is the effect of this statement?
A. A table named animals will be created in the Master schema with the same data as the animals table owned by ANJU.
B. Syntax error in the statement.
C. **A table named animals will be created in the ANJU schema with the same data as the animals table owned by Master.**
D. None of the above.

301. Select * from _____ will give a listing of the source code of Stored procedures, Stored functions and Packages.
A. User_source B. All_source C. DBA_source **D. All of the above**

302. When a Database trigger causes a second one to fire, which in turn causes a third one to fire, the concept is known as _____ triggers.
A. **Cascading** B. Mutating C. Constraining D. Waterfall

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303. When we combine multiple columns in a single index, it is known as a _____ index.
A. **Composite** B. Multiple C. Multicol D. Complicated

304. In PL/SQL, to raise our own user-defined backend error messages, we can issu the command _____. A. Raise B. Raise exception name C. Raise error **D. Raise_application_error**

305. Entity Integrity is managed in RDBMS with the help of _____ constraint.
A. **Primary key** B. Not Null C. Unique D. Foreign key

306.Normalisation is needed to reduce data _____.
A. Redundancy B. Complexity C. Visualization D. Processing

307. Repeating groups are removed from table design. This is definition of which Normal Form? **A. 1st Normal Form** B. 2nd Normal Form C. 3rd Normal Form D. 4th Normal Form

308. . Denormalisation is needed to improve _____ efficiency.
A. SELECT B. INSERT C. UPDATE D. DELETE

309. The CREATE VIEW command is used to _____.
A. To recompile View
B. To recompile a Table
C. **To define a View of one or more tables or Views**
D. All of the above

310. Which of the following views will allow DML operations?
A. View based on ORDER BY clause
B. View based on GROUP BY clause
C. View based on join
D. **None of the above**

311. . In which of the following SQL commands can you call a stored function?
A. SELECT B. UPDATE C. DELETE **D. All of the above**

312. Oracle periodically runs _____ algorithm to free the server RAM of unused packages.
A. Bubblesort **B. L.R.U.** C. Cache D. F.I.F.O.

313. Entity integrity ensures that
A. Every field value corresponds to a related Field value
B . Every field value is within a certain range of values
C. Every row is unique

D. None of the above

314. Which of the following statement is true about packages?
A. Packages allow granting of privileges easily
B. Packages enable the overloading of procedures, functions and triggers
C. **Packages improve performance by loading multiple objects into RAM at once**
D. Packages improve performance by loading single object into library at once.

315. Which of the following is the capability of a stored function?
A. Return a value
B. Accept Parameters
C. **Accept & return parameters**
D All of the above

316. Create or replace procedure aaa(num number) as
Begin
……
End;
/
How to call this stored procedure at SQL prompt?
A. Run aaa; B. Execute aaa; **C. Execute aaa(56);** D. Run aaa(56);

317. To find information about trigger status , which of the following views are appropriate?
A. **ALL_TRIGGERS** B. ALL_OBJECTS C. ALL_TRIGGER_COLS D. ALL_SOURCE

318. A trigger is based on After insert on a table. The reference :old.column will
A. Give the previous value for that column
B. Give the current value for that column
C. Give NULL
D. **Invalid statement**

319. A table can contain how many individual primary keys ?
A**.Only One** B. Only Two C. Depends on the user D. None

320. On-delete-cascade option with foreign key constraint does which one of the following?
A. Delete from the master table
B. Delete from the transaction table
C. **Removes all the transaction entries along with master**
D. None

321. To drop a constraint, which statement is valid?
A. Alter table tablename drop constraint constraintname;
B. Alter table tablename delete constraint constraintname;

C. Alter table tablename drop constraintname;
D. None

322. A user can use the procedure of another user if he is having
A. Read privilege
B. Write privilege
C. **Execute Privilege**
D. All the privileges

323. Which integrity constraint enforces Relationship between two tables?
A. Primary key B. Check C. **References** D. None

324. Create procedure P1(arg1 number, arg2 out number) as Begin
---

E
nd;
/
Calling P1(2,3) will
A. Execute successfully
B. **Will return an error due to second argument**
C. Will return an error due to the first argument
D. Nothing

True and False

1. Data is raw facts whereas Information is meaningful data. (**True**/False)
2. In an RDBMS, relationship between 2 files is maintained programmatically. (True/**False**)
3. DBMS does not support Distributed Databases. (**True**/False)
4. The upper limit for CHAR datatype is 4000 characters. (True/**False**)
5. Null value is independent of datatype. (**True**/False)
6. The Relational operator < has higher precedence than >. (True/**False**)
7. The Arithmetic operator ** can be used for exponentiation. (**True**/False)
8. By default, the ORDER BY clause returns output in ascending order. (**True**/False)
9. You can commit to a savepoint. (True/**False**)
11. Dual is a system table. (**True**/False)

12.The work done by the computer to convert Information into Data is known as processing. (True/**False**)
13.DBMS does not support Client-Server architecture. (**True**/False)
14.SQL*Plus can be used for creating ordinary text reports. (**True**/False)
15.In Oracle, the upper limit for table name is 30 characters. (**True**/False)
16.The upper limit for Varchar2 datatype is 2000 characters. (True/**False**)
17.In Oracle, Date and time is stored together in a single Date datatype. (**True**/False)
18.You can have only 1 Long column per table, either Long or Long Raw. (**True**/False)
19.You can specify an Alias only for computed fields and not for ordinary columns of a table. (True/**False**)
20.You can Commit to a savepoint but you cannot Rollback to a savepoint. (True/**False**)
21.The ORDER BY clause whenever used should always be the last clause of an SQL query (**True**/False)
22.Oracle reserved words can be used for naming a table. (True/**False**)
23.In order to select data that is within a range of values, the "BETWEEN" operator is used. (**True**/False)
24.Date and time arithmetic is not supported by Oracle. (True/False)
25.NVL function can be used only with number datatype. (True/False)
26.Log(m,n) will return the Log of m to the base n. (True/False)
27.The default date format in Oracle is 'DD-MON-YY'. (True/False)
28.Group functions are not allowed in the WHERE clause of Select statement. (True/False)
29.Any operation done with null, returns null. (True/False)
30.Within PL/SQL block, screen input and screen output is not allowed. (**True**/False)
31.EXISTS,SOME,ANY are operators in SQL. (**True**/False)
32.COUNT(expr)function returns the number of rows where expr is not null. (**True**/False)
33.The "i" in Oracle9i stands for "improved". (**True**/False)
34.A Rollback statement cannot be used to close a transaction. (True/**False)**
35.ROWID is the only pseudo column in any Oracle table. (True/**False**)
36.The second parameter in the ROUND function specifies the number of digits after the decimal point. (**True**/False)
33.DCL commands are allowed within a PL/SQL block. (True/**False**)
34.& works after compilation. (True/**False**)
35.Value of a constant can be changed in a sub-block. (True/**False**)
36.To break and come out of a loop in PL/SQL, we can use EXIT statement. (**True**/False)
37.PL/SQL For loop variable is a Read-only variable. (**True**/False)
38.Using goto statement, you cannot transfer control from main block into sub-block. (**True**/False)
39.PL/SQL extends SQL by adding control structures found in other procedural language. (**True**/False)
40.DDL commands can be used in PL/SQL block. (True/**False**)
41.PL/SQL supports boolean data type. (**True**/False)
42.You can fetch backwards in PL/SQL cursors. (True/**False**)
43.You cannot specify default value for cursor parameters. (True/**False**)
44.You can create a cursor based on a join of two tables. (**True**/False)
45.Control cannot be transferred from the exception back into the block. (**True**/False)
46.No upper limit on the number of indexes per table. (**True**/False)
47.Null values are stored in an index. (True/**False**)

48.The "%FOUND", "%NOTFOUND" and "%ISOPEN" attributes of cursors are boolean. (**True**/False)
49.The close statement disables the cursor and the active set becomes undefined. (**True**/False)
50.Stored procedures support recursion. (**True**/False)
51.In the case of OUT parameters, you can pass variables only. (**True**/False)
52.In the case of IN parameters, it is call by reference. (True/**False**)
53.Unique constraint will allow null values. (**True**/False)
54.You can disable all constraints except for foreign key constraint. (True/**False**)
55.DML operations are not allowed for a view containing an order by clause. (**True**/False)
56.View contains table data. (True/**False**)
57.You can create a synonym for a table even if the table doesn't exist. (**True**/False)
58.You can create server side session variables by declaring them in stored procedures. (True/**False**)
59.A stored function must compulsorily return a value. (**True**/False)
60.2NF applies only to the tables with composite primary keys. **(True/** False)
61.Primary key is Compulsory in Table. (True/**False**)
62.Packages enable the overloading of procedures and functions when required. (**True**/False)
63. Oracle, by default creates an index on every UNIQUE column of a table.(**True/**False)

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Frame work

1) Choose right option ('s) below statements about the .NET CLR?

1. Common Language Runtime provides a language-neutral development and execution environment.
2. Common Language Runtime ensures that an application would not be able to access memory that it is not authorized to access.
3. Common Language Runtime provides services to run managed applications.
4. Common Language Runtime The resources are garbage collected.
5. Common Language Runtime provides services to run "unmanaged" applications.

a. Only 1 and 2 b. Only 1, 2 and 4 c. **1, 2, 3, 4** d. Only 4 and 5

2) What is true about Managed Code (MC)?
a. Managed code(MC) is compiled by the JIT(Just In Time) compilers
b. Managed code(MC) where resources are Garbage Collected(GC)
c. Managed code (MC) runs on top of Windows OS.
d. Managed code (MC) written to target the services of the Common Language Runtime (CLR).

3) Dot Net Framework consists of:
a. Common language runtime
b. Set of class libraries
c. Common language runtime and set of class libraries
d. None of above

4) Which of the following statements are correct about JIT?
1. JIT compiler compiles instructions into machine code at run time.
2. The code compiler by the JIT compiler runs under CLR.
3. The instructions compiled by JIT compilers are written in native code.
4. The instructions compiled by JIT compilers are written in Intermediate Language (IL) code
a. 1, 2, 3 b. 2, 4 c. 3, 4 d. 1, 2

5) Which of the following is the root of the .NET type hierarchy?
a. System.Type b. System. Parent c. System.Base **d. System. Object**

6) Code that targets the Common Language Runtime is known as
a. unmanaged b. Distributed c. Native Code **d. Managed Code**

7) Which of the following statements correctly define .NET Framework?
a. It is an environment for developing, building, deploying and executing Desktop Applications, Web Applications and Web Services.
b. It is an environment for developing, building, deploying and executing only Web Applications.
c. It is an environment for developing, building, deploying and executing Distributed Applications.
d. It is an environment for developing, building, deploying and executing Web Services.

8) How many types of JIT compilers available under CLR?
a. 4 b. 2 c. 1 **d.3**

9) Which of the following statements is correct about Managed Code?
a. Managed code is the code that is compiled by the JIT compilers.
b. Managed code is the code where resources are Garbage Collected.
c. Managed code is the code that runs on top of Windows.
d. **All of above**

10) Name Type of assembly
a. Private, shared assembly b. Public, protected assembly c. All the above d. None

11) In Shared Assembly every project will have local copy
a. True **b. False**

12) In Private Assembly every project will have local copy
a. True b. False

13) For shared Assembly you have to generate Strong name
a. True b. False

14) Strong Name includes the
a. only name of the .net assembly, b. only version number,
c. culture identity, and a public key token **d. all the above**

15) Shared Assemblies are installed at:
a. System Assembly Cache **b. Global Assembly Cache**
c. Machine Assembly Cache d. Windows Assembly Cache

16) To create a key pair command is

a. sn –k b. sn-k c. ns –k d. none

17) Command to move dll file in shared location

a. gacutil/i dllfilename b. gc c. gautyil/I d. none

1) .entrypoint
.maxstack 3
.locals ([0] int32 ValueOne,
[1] int32 ValueTwo,
[2] int32 V_2,
[3] int32 V_3)
IL_0000: ldc.i4.s 10
IL_0002: stloc.0
IL_0003: ldc.i4.s 20
IL_0005: stl

Net frame work

a. **MSIL code** b. Metadata
c. Assembly Manifest d. Module Manifest e. C#

2) From which one of the following locations does the garbage collector remove objects?
a. The system registry b. The thread stack c. **The managed heap**
d. The global assembly cache e. The download cache

3) How does .NET Framework alleviate "DLL Hell"?

a. **The Common Language Runtime (CLR) and Assemblies specify and enforce versioning rules and allow side-by-side execution of a software component**
b. The Common Language Runtime (CLR) only allows a single version of a component to be registered in the Global Assembly Cache (GAC).
c. The Common Language Runtime (CLR) does not allow administrators to change the version of a component that an Assembly references externally.
d. The Common Language Runtime (CLR) and Assemblies can only use the version of a component with which they were compiled.

4) John wants to look at a human readable representation of the metadata and intermediate language (IL) code contained in a .NET Portable Executable (PE) file. Given the above scenario, what tool from the .NET SDK should John use?

a. ilasm.exe b**. ildasm.exe** c. al.exe d. dumpbin.exe

5) What is the relationship between Common Type System (CTS) and Common Language Specification (CLS)?

a. NET Languages each offer a subset of the CTS and a superset of the CLS.
b. NET Languages each offer a superset of the CTS and a subset of the CLS.
c. NET Languages each offer either the CTS set or the CLS set.
d. NET Languages all offer the same superset of the CTS.

6) Where is the Class Loader located?

a. **In the Common Language Runtime's (CLR) Virtual Execution Engine**
b. In the .NET source code compiler
c. In the Portable Executable File
d. In the host operating system
e. In the Global Assembly Cache (GAC)

7) Which one of the following creates the metadata tables contained in a PE file?

a. **Source code compiler** b. JIT Compiler c. Class Loader d. Verifier

8) Which one of the following describes the Application Base property?

a. Source code compiler **b. JIT Compiler** c. Class Loader d. Verifier

9) Which one of the following statements is true about MSIL code?

a. It is source code-specific.
b. It is architecture-specific.
c. **It is compiled to native code by JIT compilers.**
d. It is only stored in assembly resource files.
e. It is only found in static assemblies.

10) Which one of the following statements is true regarding how the .NET Framework minimizes "DLL Hell"?

a. It enforces that only one component of a given name can run on a machine at a time.
b. It only allows multiple versions of a given component to run on a machine at a time if they all are private assemblies.

c. **It allows side-by-side execution on the same machine, at the same time, or even the same process, of any version of the same shared DLL.**
d. It registers all assemblies with the COM+ catalog.
e. It registers all assemblies with the Global Assembly Cache (GA

11) _____ is collection of reusable classes or type.
a. **Base Class Library** b. File Library c. Both a and b are true d. None of the above

12) The common language runtime can be thought of as the environment that manages code execution. It provides core services, such as_____
a. code compilation b. memory allocation
c. thread management, and garbage collection d. **All of the Above**

13) The .NET Framework is designed for cross-language compatibility, which means, simply, that .NET components can interact with each other no matter what supported language they were written in originally.
a. This level of cross-language compatibility is possible because of the common language runtime.
b. This level of cross-language compatibility is possible because of the common Type System
c. This level of cross-language compatibility is possible because of the Common Language Specification
d. d. None of the above

14) Statement A: The Common Language Specification (CLS) defines the minimum
A. standards to which .NET language compilers must conform. Statement B: CLS ensures that any source
B. code successfully compiled by a .NET compiler can interoperate with the .NET Fram
a. Statement A is True b. Statement B is true
c. **Both Statements are True** d. None of the above

C# Basic

1) How many Bytes are stored by 'Long' Datatype in C# .net?
a. 8 b. 4 c. 2 d. 1

2) Correct Declaration of Values to variables 'a' and 'b'?
a. int a = 32, b = 40.6; b. int a = 42; b = 40; **c. int a = 32; int b = 40;** d. int a = b = 42;

3) Arrange the following datatype in order of increasing magnitude sbyte, short, long, int.
a. long < short < int < sbyte **b. sbyte < short < int < long**
c. Short < sbyte < int < long d. short < int < sbyte < long

4) Which datatype should be more preferred for storing a simple number like 35 to improve execution speed of a program?
a. sbyte b. short c. int d. long

5) Which Conversion function of 'Convert.TOInt32 ()' and 'Int32.Parse ()' is efficient?
1) Int32.Parse () is only used for strings and throws argument exception for null string

2) Convert.Int32 () used for datatypes and returns directly '0' for null string

a. 2 b. Both 1, 2 c. 1 d. None of the mentioned

6) What is the Size of 'Char' datatype?

a. 8 bit b. 12 bit **c. 16 bit** d. 20 bit

7) Select output for the following set of code.

```
1. static void Main(string[] args)
2. {
3. int a = 5;
4. int b = 10;
5. int c;
6. Console.WriteLine(c = ++ a + b ++);
7. Console.WriteLine(b);
8. Console.ReadLine();
9. }
```

a. 11, 10 b. 16, 10 **c. 16, 11** d. 15, 11

Enum

1) Which among the following cannot be used as a datatype for an enum in C#.NET?

a. short **b. double** c. int

2) *Choose the correct output for the C#.NET code given below?*

```
1. enum days: int
2. {
3. sunday = −3,
4. monday,
5. tuesday
6. }
7. Console.WriteLine((int)days.sunday);
8. Console.WriteLine((int)days.monday);
9. Console.WriteLine((int)days.tuesday);
```

a) −3 0 1 *b)* 0 1 2 ***c)*** **−3 −2 −1** *d) sunday monday tuesday*

3) *Choose the correct output for given set of code?*

```
1. enum color: int
2. {
3. red,
```

$4. green,$

$5. blue = 5,$

$6. cyan,$

$7. pink = 10,$

$8. brown$

$9. \}$

$10. console.writeline((int)color.green);$

$11. console.writeline((int)color.brown);$

$a)$ 2 10
$b)$ 2 11 $\boldsymbol{c)}$ **1 11** $d)$ 1 5

4) $Correct\ the\ output\ for\ the\ C\#.NET\ code\ given\ below?$

$1. enum\ letters$

$2. \{$

$3. a,$

$4. b,$

$5. c$

$6. \}$

$7. letters\ l;$

$8. l = letters.a;$

$9. Console.writeline(l);\quad advertisements$

$a) -1$

$b)\ 0\quad \boldsymbol{c)\ a}$

Structure $d)\ letters.a$

1) $Which\ of\ the\ following\ is\ a\ correct\ statement\ about\ the\ C\#.NET\ code\ given\ below?$

1. $struct\ book$
2. $\{$
3. private String name;
4. private int pages;
5. private Single price;
6. }
7. book b = new book();

a. New structure can be inherited from struct book
b. When the program terminates, variable b will get garbage collected

c. **The structure variable 'b' will be created on the stack**
d. When the program terminates, variable b will get garbage collected

2) Choose the correct statement about structures in C#.NET?
a. Structures can be declared within a procedure
b. **Structures can implement an interface but they cannot inherit from another structure**
c. Structure members cannot be declared as private
d. a structure can be empty

3) When does a structure variable get destroyed?
a. When no reference refers to it, it will get garbage collected
b. Depends on whether it is created using new or without new operator
c. **As variable goes out of the scope**
d. Depends on either we free its memory using free() or delete()

Polymorphisms

1) The capability of an object in Csharp to take number of different forms and hence display behaviour as according is known as:
a. Encapsulation **b. Polymorphism** c. Abstraction d. None of the mentioned

Inheritance

1) Which procedure among the following should be used to implement a 'Is a' or a 'Kind of' relationship between two entities?
a. Polymorphism **b. Inheritance** c. Templates

2) In Inheritance concept, which of the following members of base class are accessible to derived class members?
a. Static **b. protected** c. private d. shared

3) which form of inheritance is not supported directly by C# .NET?
a. Multiple inheritance b. Multilevel inheritance
c. Single inheritance d. Hierarchical inheritance

5) If no access modifier for a member of a class is specified, then class member accessibility is defined as?
a. Public b. protected **c. private** d. internal

6) using System;
class shape
{
public int H; public int W; public shape(int h, int w)
{ H = h;

```
        W = w;
      }
      public double area()
      { return 0;    }
   }
      class rectangle :shape
      { public rectangle(int p, int q) : base(p, q) { }        public double area()
        { return H * W;      }
      }
   class triangle:shape
   { public triangle(int p, int q) : base(p, q) { }        public double
area()        { return (H * W)/2.0;      }
   }
   class Program
   {  static void Main(string[] args)
      { shape s1 = new triangle(5, 5);
Console.WriteLine (s1.area());          shape s2 = new rectangle
(5, 5);          Console.WriteLine(s2.area());
        Console.ReadLine ();      }
   }
```

What will be the output

a. 0, 0 b. 25,12 c. 12.00 d. None

7)
```
using System;    class shape    { public
    int H;       public int W;
          public shape(int h, int w)
          {     H = h;
             W = w;    }       public virtual double
    area()
          {      return 0;    }
        }
          class rectangle :shape
          { public rectangle(int p, int q) : base(p, q) { }        public
    double area()
            { return H * W;      }
          }
        class triangle:shape
        {
          public triangle(int p, int q) : base(p, q) { }        public
    double area()        { return (H * W)/2.0;      }
        }
        class Program
        { static void Main(string[] args)
          {     shape s1 = new triangle(5, 5);
```

```
Console.WriteLine (s1.area());          shape s2 = new rectangle
(5, 5);
        Console.WriteLine(s2.area());
        Console.ReadLine ();
      }


    }
```

a. 25,12.00 b.12.05,25 c.0,0 d. None

```
8) using System; using System.Collections.Generic;
   class shape    {  public int H;       public int W;
   public shape(int h, int w)
        {   H = h;
            W = w;     }       public virtual double
   area()
        {        return 0;      }
     }
        class rectangle :shape
        { public rectangle(int p, int q) : base(p, q) { }          public
   override double area()
          {  return H * W;      }
        }
     class triangle:shape
     {  public   triangle(int p, int q) : base(p, q) { }        public
   override double area()
          {  return (H * W)/2.0;      }
     }
     class Program
     {    static void Main(string[] args)
        {    shape s1 = new rectangle(5, 5);
   Console.WriteLine (s1.area());          shape s2 = new
   triangle(6, 6);          Console.WriteLine(s2.area());
        Console.ReadLine ();
      }
     }
```

a. 0, 25 b. 25, 18 c.25, 18.000000 d.0

```
8) using System;
namespace ConsoleApplication7
{
  abstract class shape
   {
      public int H;       public int W;
```

```
public shape(int h, int w)
      {   H = h;
          W = w;      }        public virtual double
area()
      {         return 0;      }
   }
   class rectangle :shape
      { public rectangle(int p, int q) : base(p, q) { }          public
double area()
         {  return H * W;      }
      }
   class triangle:shape
   {
      public   triangle(int p, int q) : base(p, q) { }        public  double
area()          {  return (H * W)/2.0;      }
   }
   class Program
   {
      static void Main(string[] args)        {   shape s1 =
new rectangle(5, 5);            Console.WriteLine
(s1.area());            shape s2 = new triangle (6, 6);
          Console.WriteLine(s2.area());
          Console.ReadLine ();
      }    }
```

a.**0,0** b.25,1 c. 15,18.000000 d. none

```
9) using System; using
System.Collections.Generic;
namespace ConsoleApplication7
{
  abstract class shape     {   public int H;
public int W;
      public shape(int h, int w)
      {   H = h;
          W = w;     }        public abstract
double area();      }
      class rectangle :shape
      { public rectangle(int p, int q) : base(p, q) { }
public  override double area()            {  return H * W;      }
      }
   class triangle:shape
   {   public   triangle(int p, int q) : base(p, q) { }        public
override double area()
         {  return (H * W)/2.0;      }
   }
```

```
class Program
{ static void Main(string[] args)
  {  shape s1 = new rectangle (5, 5);
Console.WriteLine (s1.area());          shape s2 = new
triangle (6, 6);
      Console.WriteLine(s2.area());
      Console.ReadLine ();
  }
}
```

a. 25, 18 b. 0, 0 c. 0, 15 d. None

Method Overloading

1) The process of defining two or more methods within the same class that have same name but different parameters list?

a) Method overloading b) method overriding c) Encapsulation d) None of the mentioned

2) Which of these can be overloaded?

a) Constructors b) Methods **c) Both a & b** d) None of the mentioned

3) What is the process of defining a method in terms of itself that is a method that calls itself?

a) Polymorphism b) Abstraction c) Encapsulation **d) Recursion**

4) What could be the output of the following set of code?

```
1. class Program
2. {
3. static void Main(string[] args)
4. {
5. Console.WriteLine( vol(10));
6. Console.WriteLine( vol(2.5f,  5));
7. Console.WriteLine( vol( 5l,  4,  5));
8. Console.ReadLine();
9. }
10. static int vol(int x)
11. {
12. return(x * x * x);
13. }
14. static float vol(float r,  int h)
15. {
1. return(3.14f * r * r * h);
2. }
3. static long vol(long l, int b, int h)
```

```
4. {
5. return(l * b * h);
6. }
7. }
```

a) 1000 0 100 b) 0 0 100 c) compile time error **d) 1000 98.125 100**

5) What could be the output for the set of code?

```
1. class overload
2. {
3. public int x;
4. int y;
5. public int add(int a)
6. {
7. x = a + 1;
8. return x;
9. }
10. public int add(int a, int b)
11. {
12. x = a + 2;
13. return x;
14. }
15. }
16. class Program
17. {
18. static void Main(string[] args)
19. {
20. overload obj = new overload();
21. overload obj1 = new overload();
22. int a = 0;
23. obj.add(6);
24. obj1.add(6, 2);
25. Console.WriteLine(obj.x);
26. Console.WriteLine(obj1.x);
27. Console.ReadLine();
28. }
29. }
```

a) 8 8 b) 0 2 c) 8 10 **d) 7 8**

6) What will be the output for the set of code?

```
1. static void Main(string[] args)
2. {
3. int i = 5;
```

```
4. int j  = 6;
5. add(ref i);
6. add(6);
7. Console.WriteLine(i);
8. Console.ReadLine();
9. }
10. static void add(ref int x)
11. {
12. x = x * x;
13. }
14. static void add(int x)
15. {
16. Console.WriteLine(x * x * x);
17. }
```

a) Compile time error b) 25 0 c) 216 0 **d) 216 25**

Over rider

4) What will be the output for the given set of code?

```
class A
{
   public virtual void display()
   {
      Console.WriteLine("A");
   }
```

1) Which keyword is used to declare a base class method while performing overriding of base class methods?

a) This **b) virtual** c) override d) extend

2. The process of defining a method in subclass having same name & type signature as a method in its superclass is known as?

a) Method overloading **b) Method overriding** c) none of the mentioned

3) Which of the given modifiers can be used to prevent Method overriding?

a) Static b) Constant **c) Sealed** d) final

```
}
class B: A
{
  public override void display()
  {
     Console.WriteLine(" B ");
  }
}
```

```
class Program
{
   static void Main(string[] args)
   {
A obj1 = new A();
B obj2 = new B();
      A r;
r = obj1;
      r.display();
r = obj2;
      r.display();
      Console.ReadLine();
   }
}
```

a) A, A b) B, B c) Compile time error **d) A, B**

5) The modifier used to hide the base class methods is?

a) Virtual **b) New** c) Override d) Sealed

6) What will be the output for the given set of code?

```
class a
{
   public  void fun()
   {
      Console.WriteLine("base method");
   }
}
class b: a
{
   public new void fun()
   {
      Console.WriteLine(" derived method ");
   }
}
class Program
{
   static void Main(string[] args)
   {
      b k = new b();
k.fun();
      Console.ReadLine();
   }
}
```

a) base method **b) derived method**

c) Code runs successfully prints nothing d) Compile time error

7) What will be the output for the given set of code?

```
 class A
 {
    public virtual void display()
    {
       Console.WriteLine("A");
    }
 }
 class B: A
 {
   public override void display()
   {
      Console.WriteLine(" B ");
   }
 }
class Program
{
   static void Main(string[] args)
   {
A obj1 = new A();
B obj2 = new B();
      A r;
r = obj1;
      r.display();
r = obj2;
      r.display();
      Console.ReadLine();
   }
}
```

a) A, A b) B, B c) Compile time error **d) A, B**

Constructor Overloading

1) What will be the output of the given set of code?

```
1. class maths
2. {
3. public int length;
4. public int breadth;
5. public maths(int x, int y)
6. {
7. length = x;
8. breadth = y;
```

```
9.  Console.WriteLine(x + y);
10. }
11. public maths(double x, int y)
12. {
13. length = (int)x;
14. breadth = y;
15. Console.WriteLine(x * y);
16. }
17. }
18. class Program
19. {
20. static void Main(string[] args)
21. {
22. maths m = new maths(20, 40);
23. maths k = new maths(12.0, 12);
24. Console.ReadLine();
25. }
26. }
```

a) 60, 24 b) 60, 0 **c) 60, 144** d) 60, 144.0

2) What will be the output of the given set of code?

```
1.  class maths
2.  {
3.  public int length;
4.  public int breadth;
5.  public  maths(int x)
6.  {
7.  length = x + 1;
8.  }
9.  public maths(int x, int y)
10. {
11. length = x + 2;
12. }
13. }
14. class Program
15. {
16. static void Main(string[] args)
17. {
18. maths m = new maths(6);
19. maths k = new maths(6, 2);
20. Console.WriteLine(m.length);
21. Console.WriteLine(k.length);
```

```
22. Console.ReadLine();
23. }
24. }
```

a) 8, 8 b) 0, 2 c) 8, 10 **d) 7, 8**

3) What will be the output of the given set of code?

```
1.  class maths
2.  {
3.  int i;
4.  public maths(int x)
5.  {
6.  i = x;
7.  Console.WriteLine(" hello: ");
8.  }
9.  }
10. class maths1 : maths
11. {
12. public  maths1(int x) :base(x)
13. {
14. Console.WriteLine("bye");
15. }
16. }
17. class Program
18. {
19. static void Main(string[] args) 20. {
21. maths1 k = new maths1(12);
22. Console.ReadLine();
23. }
24. }
```

a) hello bye b) 12 hello `c) bye 12 d) Compile time error

Property getset

1) Select the correct statement about properties of read and write in C#.NET?

a) A property can simultaneously be read or write only
b) A property can be either read only or write only
c) A write only property will only have get accessor
d) A read only property will only have set accessor

2) What will be the output of the following snippet of code?

```
1.  class number
2.  {
```

```
3.  int length = 50;
4.  public int number1
5.  {
6.  get
7.  {
8.  return length;
9.  }
10. set
11. {
12. length = value;
13. } 14. }
15. }
16. class Program
17. {
18. public static void Main(string[] args)
19. {
20. number p = new number();
21. p.number1 = p.number1 + 40;
22. int k = p.number1 * 3 / 9;
23. Console.WriteLine(k);
24. Console.ReadLine();
25. }
26. }
```

a) 0 b) 180 **c) 30** d) Compile time error

3) What will be the output of the following snippet of code?

```
1.  class number
2.  {
3.  int length = 60;
4.  public int number1
5.  {
6.  get
7.  {
8.  return length;
9.  }
10. }
11. }
12. class Program
13. {
14. public static void Main(string[] args)
15. {
16. number p = new number();
```

```
17. int l;
18. l = p.number1 + 40;
19. int k = l * 3 / 4;
20. Console.WriteLine(k);
21. Console.ReadLine();
22. }
23. }
```

a) 30 **b) 75** c) 80 d) 0

4) What will be the output of following snippet of code?

```
1.  class number
2.  {
3.  private int num1;
4.  private int num2;
5.  public int anumber
6.  {   get
7.  {         return num1;       }
8.  set
9.  {         num1 = value;       }
10. }
11. public int anumber1
12. {
13. get
14. {     return num2;       }
15. set
16. {    num2 = value;       }
17. }
18. }
19. class Program
20. {
21. public static void Main(string[] args)
22. {
23. number p = new number();
24. p.anumber = 20;
25. number k = new number();
26. k.anumber1 = 40;
1.  int m = p.anumber;
2.  int t = k.anumber1;
3.  int r = p.anumber + k.anumber1;
4.  Console.WriteLine("number = " +m);
5.  Console.WriteLine("number = " +t);
6.  Console.WriteLine("sum = " +r);
```

```
7. Console.ReadLine();
8. }
9. }
```

a) 0 b) Compile time error c) 60 **d) none of the above mentioned**

5) Consider a class maths and we had a property called as sum.b is a reference to a maths object and we want the statement b.sum = 10 to fail.Which of the following is the correct solution to ensure this functionality?

a) Declare sum property with both get and set accessors

b) Declare sum property with only get accessor

c) Declare sum property with get, set and normal accessors

d) None of the mentioned

6) Consider a class maths and we had a property called as sum. b which is the reference to a maths object and we want the statement Console. WriteLine (b.sum) to fail. Which among the following is the correct solution to ensure this functionality?

a) Declares sum property with only get accessor

b) Declares sum property with only set accessor

c) Declares sum property with both set and get accessor

d) Declares sum property with both set, get and normal accessor

7. Consider a class maths and we had a property called as sum.b is a reference to a maths object and we want the code below to work. Which is the correct solution to ensure this functionality? b. maths = 10; Console. WriteLine(b.maths);

a) Declare maths property with get and set accessors

b) Declare maths property with only get accessors

c) Declare maths property with only set accessors

d) Declare maths property with only get, set and normal accessors

Interface

1) Which statement correctly defines Interfaces in C#.NET?

a) Interfaces cannot be inherited

b) Interfaces consists of data static in nature and static methods

c) Interfaces consists of only method declaration

d) **None of the mentioned**

2) A class consists of two interfaces with each interface consisting of three methods. The class had no instance data. Which of the following indicates the correct size of object created from this class?

a) 12 bytes b) 16 bytes c) 0 bytes **d) 24 bytes**

3) Select the correct statement among the given statements?

a) One class could implement only one interface

b) Properties could be declared inside an interface

c) Interfaces cannot be inherited
d) None of the above mentioned

4) Which of the following is the correct way of implementing an interface addition by class maths?
a) class maths : addition {} b) class maths implements addition {}
c) class maths imports addition {} d) None of the mentioned

5) Does C#.NET support partial implementation of interfaces?
a) True **b) False** c) Can't Say d) None of the above mentioned

6) Access specifiers which can be used for an interface are?
a) Public b) Protected c) Private d) All of the mentioned

7)
```
using System;
interface I1
{    void A();
}  interface I2 {    void A();
}  class C : I1, I2
{                                        public
void A()
   {
      Console.WriteLine("C.A()");
   }
}
Class entry
{ static void main(){
C c = new C();
I1 i1 = (I1)c;
I2 i2 = (I2)c;
}
c.A();
I1.A();
I2.A();
}
```

What will be the output of the program.

A. C.A() C.A() A()

B. c.A(); i2.A();
i1.A();

C.Error

D. None

8) using System;
interface I1
{ void A(); } interface I2 { void A(); }
class C : I1, I2 { public void A() {
Console.WriteLine("C.A()"); }
void I1.A()
{ Console.WriteLine("I1.A()"); }
}
Class entry
{ static void main(){
C c = new C();
c.A(); I2 i2 = c;
c.A();}}

a. C.A(),C.A() b. C.A(),I1.A() c.I1.A(),C.A() d. None Q8

9) using System;
interface I1
{ void A();} interface I2
{ void A();}
class
C : I1, I2
{ void I1.A()
{ Console.WriteLine("I1.A()"); }
}
Class entry
{ static void main(){
C c = new C(); c.A();
}}

a. Compile time Error b. I2.A () c. Run time Error d. none

10) using System;
interface I1
{ void A();} interface I2 { void A();} class
C : I1, I2 { void I2.A()
{ Console.WriteLine("I2.A()"); }
Void A() { Console.WriteLine("I1.A()");}
}
Class entry
{ static void main(){
C c = new C(); I2 x=new C();
c.A();
x.A();}}

a. I1.A(),I2.A() b. I2.A(),I1.A() c. Error d. None

11) using System;
interface I1
{ void A();} interface I2 { void
I1.A();} class
C : I1, I2
{ void I2.A()
{ Console.WriteLine("I2.A()"); } Void A() {
Console.WriteLine("I1.A()");}
}
Class entry
{ static void main(){

I1 x=new C(); I2 p=new c(); x.A();
p.A();
}}

a. I1.A(),I2.A() b.I1.A(); c. Error d. None

12) using System; class Test { static void
Main() {
A. F();
B. F() } } class A { static A() {
Console.WriteLine("Init A");
} public static void F() { Console.WriteLine("A.F");
} } class B { static B() {
Console.WriteLine("Init B");
} public static void F() { Console.WriteLine("B.F");
}
}

What will be the output
A.**Init A A.F Init**
B
B.F

B.None

C. Init B B.F
Init A
A.F

D.Error

13) Constant variable are by default static
a. True b. false

14) Readonly variable must be either initialised at time of declaration or in constructor
a. True b. False

15) Readonly variable must be initialised at time of declaration
a. true b. **false**

16) Readonly variable required data at compile time
a. True **b. False**

17)Const variable required data at runtime
a. True **b.** False

18) class program
```
{ const int a=5;
  Static void Main()
  { program C= new program();   Console.WriteLine(C.a);
   }
}
```
a. Compile t b.5 c. none d. run time error

19) class program { const int a=5;
```
  Static void main()
  { program C= new program();
 Console.WriteLine(program.a);
   }
}
```
a. Compile ti **b.5** c. none d. run time error

20) You cannot declare static variable inside method
a. True b. False

21) You cannot declare constan variable inside method
a. true **b. false**

Exception

1) Which among the following is NOT an exception?

a) Stack Overflow b) Arithmetic Overflow or underflow

c) Incorrect Arithmetic Expression d) All of the above mentioned

2) Select the statements which describe the correct usage of exception handling over conventional error handling approaches?

a) As errors can be ignored but exceptions cannot be ignored

b) Exception handling allows separation of program's logic from error handling logic making software more reliable and maintainable

c) try – catch – finally structure allows guaranteed clean up in event of errors under all circumstances

d) All of the above mentioned

3) Select the correct statement about an Exception?

a) It occurs during loading of program

b) It occurs during Just-In-Time compilation

c) It occurs at run time

d) All of the above mentioned

4) Which of these keywords is not a part of exception handling?

a) Try b) finally **c) thrown** d) catch

5) Which of these keywords must be used to monitor exceptions?

a) try b) finally c) throw d) catch

6) Which of these keywords is used to manually throw an exception?

a) try b) finally **c) throw** d) catch

7) Choose the correct output for the given set of code:

```
1. class program
2. {
3. static void main(string[] args)
4. {
5. int i = 5;
6. int v = 40;
7. int[] p = new int[4];
8. try
9. {
10. p[i] = v;
11. }
12. catch(IndexOutOfRangeException e)
13. {
14. Console.WriteLine("Index out of bounds");
15. }
16. Console.WriteLine("Remaining program");
17. }
18. }
```

a) Value 40 will be assigned to a[5];

b) **The output will be : Index out of bounds**

Remaining program

c) The output will be :

Remaining program

d) None of the above mentioned

8) Choose the correct output for the given set of code:

```
1. static void Main(string[] args)
2. {
3. try
4. {
5. Console.WriteLine("csharp" + " " + 1/Convert.ToInt32(0));
6. }
7. catch(ArithmeticException e)
8. {
9. Console.WriteLine("Java");
10. }
11. Console.ReadLine();
12. }
```

a) csharp **b) java** c) Run time error d) csharp 0

9) Which of the following is the correct statement about exception handling in C#.NET?
a) Finally clause is compulsory
b) A program can contain multiple finally clauses
c) **The statement in final clause will get executed no matter whether an exception occurs or not**
d) All of the above mentioned

10) Choose the correct output for given set of code:

```
1. class Program
2. {
3. static void Main(string[] args)
4. {
5. try
6. {
7. Console.WriteLine("csharp" + " " + 1/0);
8. }
9. finally
10. {
11. Console.WriteLine("Java");
12. }
13. Console.ReadLine();
14. }
15. }
```

a) csharp 0
b) Run time Exception generation
c) Compile time error
d) Java

11) What will be the output of given code snippet?

```
1.  {
2.  try
3.  {
4.  int []a = {1, 2, 3, 4, 5};
5.  for (int i = 0; i < 7; ++i)
6.  Console.WriteLine(a[i]);
7.  }
8.  catch(IndexOutOfRangeException e)
9.  {
10. Console.WriteLine("0");
11. }
12. Console.ReadLine();
}
```

a) 12345 **b) 123450** c) 1234500 d) Compile time error

12. When no exception is thrown at runtime then who will catch it?

a) CLR b) Operating System c) Loader d) Compiler

Basic C

1) _____ pops up a list of methods that can be called on that object,instead of typing the full method name.

a) Intelligence b) intelligence c) goodsense d) **intellisense**

2) C# supports all the key object oriented concepts such as encapsulation inheritence and polimorphism

a. True b. False

3) C# is case sensitive language.

a. True b. False

4) We use the _____ function to write a string to the screen.

a. Console.Writeln() b. **Console.WriteLine()** c. Console.Write() d. Console.PrintLine()

5) _____ method can by called creating an instance of a class.

a. Non Static b. Static c. All of the above d.None of the Above

6) C# provides us with two predefined references types _____ and _____.

a. int ,float b. **Object, String** c. bool , int

7) In an enum type each of the name constant should necessarily have an ___ type.

a. int b. double c. string

8) A reference to a reference-type instance requires how many bytes?
a. 2 bytes **b. 4 bytes** c.8 bytes d.16 bytes

9) In C#, what character is used to indicate a verbatim string literal?
a. @ b. ! c. " d. #

10) What is boxing?
a. The conversion of a value type to an object instance
b. The conversion of an object instance to a value type.
c. The conversion of a value type to reference type.
d. The conversion of a reference type to a value type

11) What is the work of JIT compiler in .NET framework?
a. It complies the assemblies.
b. **It translates the code in the machine language**.
c. It translates the MSIL code of assembly and uses the CPU architecture of the machine to execute a .NET application.
d. It translates the assembly code of MSIL and uses the CPU architecture of the machine to execute a .NET application.

12) Benefit of .NET framework is/are_____.
a. Consistent programming Model b. Language Interoperability
c. Automatic management of resources **d. All of the above**

13) Which statement is used to replace multiple if statement in code?
a. Select – Case b.**Switch – Case** c.Both 1 and 2 d.None of the above

14) Which of the following is not a method of System. Object?
a. GetType b.ToString c.Equals d.Clone

15) What will be the o/p ?

```
class Test
{
 static void Main(string[] args)
 { int a;    a = 1;
if(a)
   System.Console.WriteLine("I can use c# wrongly");    else
System.Console.WriteLine("I can take chances");
} }
```

a. I can use c# wrongly b. I can take chances c. Runtime Error d. **Compile Time Error**

Deligate Lambda

1) To Handel exception in C# you must use

a. Try catch block b. Only try c. Try – finally d. None

2) All Exceptions derived from

a. Exception class b. Application exception c. System Exception

3) A. An anonymous method cannot access ref or out parameters of the defining method.
B. An anonymous method cannot have a local variable with the same name as a local

a. Only B is true b. only A is true c. none d. **both statements are true**

4)
```
delegate void CountIt(int end);  class
AnonMethDemo3 {          static void Main() {
      int result;
CountIt count = delegate (int end) {
int sum = 0;
  for(int i=0; i <= end; i++) {                    Console.WriteLine(i);
      sum += i;
                                        }
return sum; // return a value from an anonymous method
                    };
          result = count(3);
          Console.WriteLine("Summation of 3 is " + result);
          }
          }
```

a. 6 b. 0 c. Error d. None

5)
```
delegate int CountIt(int end);   class
AnonMethDemo3 {          static void Main() {     int
result;
          CountIt count = delegate (int end) {
            int sum = 0;
           for(int i=0; i <= end; i++) {
          Console.WriteLine(i);
                    sum += i;
                                        }
                      return sum; // return a value from an anonymous method
                    };
          result = count(3);
          Console.WriteLine( result);
          }
          }
```

a. 1,2,3 6 b. none c. 1,2,3,

6) delegate int addition(int x, int y); class myclass

```
    {
     public int add(int p, int q)
       {
        return p + q;
       }
       public int mul(int p, int q)
       {
        return p * q;
       }
    }
    class Program
    {
       static void Main(string[] args)
       {
          myclass m = new myclass();          addition a =delegate(int p,int q){int r; r=p+q;
return r;};          a += delegate(int p, int q) { int r; r = p * q; return r; };
Console.WriteLine(a.GetInvocationList().Length);
            int invo = a(3, 5);
            Console.WriteLine(invo);
             Console.ReadLine();
       }
    }
}
```

a.2, 15 b.15,8 c. Error d. none

7) delegate int Incr(int v); class SimpleLambdaDemo { static void Main() {
Incr incr = count => count + 2; int x = -5; while(x <= 0) { Console.Write(x + " "); x = incr(x); // increase x by 2
}
}
}
}

a. -5,-3,-1 b. None C. 5,3,1, D. Error

8) deligate for this lambda expression n => n % 2 ==

a.delegate true deli();
c. deligate int deli();
c. **deligate bool deli();**
d. none

9).Using system;
Delegat bool isEven(int x);
Class myclass
{ public static void Main()

```
{
   isEven isEven = n => n % 2 == 0;

   // Now, use the isEven lambda expression     Console.WriteLine("Use isEven lambda expression:
");
   for(int i=1; i <= 3; i++)       if(isEven(i))
Console.WriteLine(i + " is even."); } }
```

a. 2 b. none c. 1,2,3 d. Error

10) Data written before => is known as

a**. input parameter** b. output parameter c. represent return value d. None

Name Method

```
1) using System;  class Program     {
static void Main(string[] args)
      { mycall("vita"); mycall("vita",55);
Console.ReadLine();        }
      static void mycall(string message, int age =25)
      {
     Console.WriteLine("{0}", message);
         Console.WriteLine("{0}", age);
      }
   }
```

a. Vita, 25 ,vita, 55 b.Vita,vita,55 c. Error d.Vita,55,vita,25

```
2) using System;
   class Program
   {
      static void Main(string[] args)
      {
         DisplayFancyMessage(message: "vita",  age: 25,addr: "juhu");

        Console.ReadLine();
      }
     static void DisplayFancyMessage(int age,string message, string addr)
      {

      Console.WriteLine(message);
      Console.WriteLine("{0} {1}",age,addr);

      }

   }
}
```

a. vita,25,juhu b. error C.juhu,vita,25 d. runtime error

3) using System;
class Program
{
static void Main(string[] args)
{
DisplayFancyMessage(message= "vita", age= 25,addr= "juhu");
Console.ReadLine();
}

static void DisplayFancyMessage(int age,string message, string addr) {

Console.WriteLine(message);
Console.WriteLine("{0} {1}",age,addr);

}
}
}
a. vita,juhu,25 **b. Error** c. juhu,vita,25 d. runtime error

4) IClonable interface has abstract method
a. Clone ===clone b. memberwiseclone c. both d. None

5) class Program
{
static void Main(string[] args)
{
DisplayFancyMessage("Wow! Very Fancy indeed!", 50, name:"raj");
DisplayFancyMessage("geeta", message: "hello",50);
Console.ReadLine();
}
static void DisplayFancyMessage(string message, int number, string name,) { Console.
WriteLine("{0},{1},{2}",number, name, message);
}

}
a. Error b.50, geeta, hello c.hello,geeta,50 d. none

6) foreach loop internally calling
a. Iclonable b. **IEnumerable** c. both d. none

7) using System; class Program
{
static void Main(string[] args)

```
{
  EnterLogData(message:"Error",string owner = "Programmer", DateTime timeStamp = DateTime.Now)

   Console.ReadLine();
}

static void EnterLogData(string message,string owner = "Programmer", DateTime timeStamp =
DateTime.Now)
{
Console.Beep();
Console.WriteLine("{0}", message);
Console.WriteLine("{0}", owner);
Console.WriteLine("{0}", timeStamp);
}
```

a. Error b. Error, Programmer, 02/06/2015 c. none d. Programmer, Error, 02/06/2015

8) IComparable has abstract method
a. compareTo b. compare
c. comparer d. all the above

9) IComparer has abstract method
a. Clone b. **compare** c. comparer d. none

10) Which statement is true
a. when you implement interface and use abstract method you must use public access modifier.
b. when you implement interface and use abstract method you may use public access modifier
a. **only A is true** b. both are true c. only b is true d. none

11) Which statement is true
A. MemberwiseClone() method copy value type bit by bit and for reference type use shallow copy
B. MemberwiseClone() method copy value type and reference type as shallow copy
a. only b is true b. **only a is true** c. none d. both

12) To short array you have
a. **static sort() method in Array class** **c.** virtual sort() method in Array class
b. user have to write own algorithm d. none

13) What will be the output using System;

```
   delegate int addition();
  class myclass
  {      int a, b;      public int add()
    {         return a + b;
    }
    public myclass(int a, int b) { a = a;b = b; }
```

```
    }
    class Program
    {
        static void Main(string[] args)
        {
            myclass m = new myclass(6,6);

            addition a=m.add;        int r = a();
            Console.WriteLine(r);
            Console.ReadLine();
        }
    }
}
```

a. 0 b. 12 c. Error d. None

14)
```
using System; delegate int addition();
    class myclass
      {       int a, b;        public int
    add()
          {          return a + b;
          }
          public myclass(int a, int b) {this. a = a;this.b = b; }
      }
      class Program
      {
          static void Main(string[] args)
          {
              myclass m = new myclass(6,6);

              addition a=m.add;        int r = a();
              Console.WriteLine(r);
              Console.ReadLine();
          }
      }
    }
```

a. 12 b. None c. Error d. 0

15)
```
delegate int addition(int x,int y);     class     myclass
  {  public int add(int p,int q)
     {          return p + q;
     }
     public int mul(int p,int q)
     {
        return p * q;
     }
```

```
    }
    class Program
    {
        static void Main(string[] args)
        {
            myclass m = new myclass();

            addition a=m.add;          addition b = m.mul;
addition tot = a + b;

              int r = tot(3,5);          Console.WriteLine(r);
            Console.ReadLine();
        }
    }
}
```

a. 15 b. Error c. 8, 15 d. none

16) deligate is derived from

a. System. Deligat

b. **System . MulticastDelegate**

c. none

d. from both

17) int invocationCount = d1.GetInvocationList().GetLength(0); the above code assume d1 is variable of a type deligate

a. This method give length of method bind with deligate

b. This method give list of method

c. None

d. **This method give list of parameter of method**

18) readonly key are internally static

a. True b. **False**

19) readonly key can not be used in method

a. true b. **False**

20) Which statement is true

A.as operator is like a cast,if conversion not possible it will return null instead of raising exception

B as operator is like a cast,if conversion not possible it will raise exception

a. only A b. only B c. both true d. both false

21) Array.Sort() method use a.

a. Quicksort algorithm. b. Heapsort algorithm

c. insertion sort algorithm. d. **all three depend on size of dat**a

22) as operator perform only conversion

a. reference conversion b. nullable
c. boxing conversion d. all the above

Assembly Coll Basic

1) Name Type of assembly
a. **Private ,shared assembly** b. Public ,protected assembly c. All the above d. None

2) In Shared Assembly every project will have local copy
a. True b. **False**
3) In Private Assembly every project will have local copy
a. **True** **b.** False
4) For shared Assembly you have to generate Strong name
a. **true** b. False

5) Strong Name includes the
a. only name of the .net assembly, b. only version number,
c. culture identity, and a public key token d. **all the above**

6) Shared Assemblies are installed at:
a. System Assembly Cache b. **Global Assembly Cache**
c. Machine Assembly Cache d. Windows Assembly Cache

7) To create a key pair command is
a. sn –k b. sn-k c. ns -k d. none

8) Command to move dll file in shared location
a. gacutil/i dllfilename b. gc c. gautyil/I d. none

9) What are delegates?
a. Value Pointer b. **Function Pointer** c. Pass By Reference d. Pass By Value

10) Generics provide better performance because they do not result in boxing or unboxing penalties when storing value types.
a. True b. False
11) Generics are not type safe because they can contain different type you specify.
a. True b. **False**

12) To help overcome the limitations of a simple array, the .NET base class libraries ship with
a. Thread class b. **Collection class** c. None d. Connection class

13) Collection classes are built to dynamically resize themselves on the fly as you insert or remove items
a. True b. False

14) Array List is in namespace
a. System b. **System.Collection** c. System.Collection.Generic d. none

15) When creating a C# Class Library project, what is the name of the supplementary file that Visual Studio.NET creates that contains General Information about the assembly?
a. AssemblyInfo.xml b. **AssemblyInfo.cs**
c. AssemblyInformation.cs d. AssemblyAttributes.cs

16) Which of the following is a value type, and not a reference type?
a. array b. delegate c. **enum** d. class

17) What is the difference between Overridding and Overloading?
a. Overridding, same name with different return type and overloading same name with different argument
b. Overridding is dynamic, overloading is static
c. **Overridding, same signature with different definition, overloading has different signature** d. All the above Q18

18) A reference to a reference-type instance requires how many bytes?
a. 2 bytes **b. 4 bytes** c.8 bytes d. 16 bytes

19) Which of the following is the C# escape character for Null?
a. \n **b. \0** c.\f d. \v

20) Which keyword is used in C# to prevent a class from being inherited by another class?
a. override b. protected **c. sealed** d. NotInheritable

21) C# types are defined in _____, organized by _____, compiled into _____, and then grouped into _____.
a. files, modules, namespaces, assemblies
b. files, namespaces, assemblies, modules
c. files, assemblies, namespaces, modules
d. **files, namespaces, modules, assemblies**

22) What is Boxing?
a. **The conversion of a value type to an object instance**
b. The conversion of an object instance to a value type.
c. The conversion of a value type to reference type.
d. The conversion of a reference type to a value type

23) Which of the following is true for a special member of the class namely 'this'
a. this cannot be used in a static method
b. this cannot be used in a class A to access a member of class B
c. The this member can never be declared: it is automatically implied when you create a class **d. All the above are correct**
e. None of above

ADO _NET

1) To use the .NET Framework Data Provider for SQL Server, an application must reference the _____ namespace.

a) System.Data.Client **b) System.Data.SqlClient**
c) System.Data.Sql d) None of the mentioned

2) _____object is used to fill a DataSet/DataTable with query results in ADO.net.

a) DataReader b) Dataset **c) DataAdapter** d) DataTables

3) classes used to access a SQL Server database in the managed space.
Valid Code for Creating a SqlConnection Object would be :

a) SqlConnection conn = new SqlConnection(
"Data Source=(local);Initial Catalog=Northwind;Integrated Security=SSPI");

b)SqlConnect conn = new SqlConnection(
"Data Source=(local);Initial Catalog=Northwind;Integrated Security=SSPI");

c)SqlConnection conn = new SqlConnect(
"Data Source=(local);Initial Catalog=Northwind;Integrated Security=SSPI"); advertisements

d) All of the mentioned

4). Syntax for closing and opening the connection in ADO.net is : a) sqlConn.Open() and sqlConn.close()
b) sqlConn.open() and sqlConn.Close()
c) sqlConn.Open() and sqlConn.Close()
d) None of the mentioned

5) The DataSet object is a _____ storage.

a. connected b. **Disconnected** c. polling d. None

6) _____ is a bridge between a DataSet and data source for retrieving and saving data.

1. DataControler 2. DataCommand **3. DataAdapter** 4. None

7) How instantiate the DataReader ?

- **a. by calling a Command object's ExecuteReader.**
- **b.** by calling a Query object's ExecuteQuery.
- **c.** by calling a new().
- **d.** None

8) When we need to retrieve only a single value from the Database,which Method is efficient

a. ExecuteReader() **b. ExecuteScalar()** c. ExecuteNonQuery() d. ExecuteXmlReader()

9) If we are not returning any records from the database which method is used

a. ExecuteReader () b. ExecuteScalar () c. ExecuteScalar () **d. ExecuteNonQuery()**

10) To populate the data set, which methord of DataAdapter is used
a. GetData() b. FillData() c. FillDataset() **d.Fill()**

11) What does ADO stand for?
a. Advanced Data Object b. Active Data Objects
c. ActiveX Directory Objects **d. ActiveX Data Objects**

ASP

1) What does ASP stand for?
a. All Standard Pages b. **Active Server Pages** c. A Server Page d. Active Standard Pages

2) What attribute must be set on a validator control for the validation to work?
a.Validate b. ValidateControl c. ControlToBind d. **ControlToValidate**

3) What is the Web.config file used for ?
a. To store the global information and variable definitions for the application
b. To store the global information and variable definitions for the application
c. To configure the web server
d. To configure the web browser

4) What is the file extension used for ASP.NET files?
a. ASP b. **ASPX** c. Web d. None of the above

5) The first event triggers in an aspx page is.
a. Page_Init() b. Page_Load() c. Page_click()

6) What class does the ASP.NET Web Form class inherit from by default?
a. System.Web.UI.Page b. System.Web.UI.Form
c. System.Web.GUI.Page d. System.Web.Form

7) We can manage states in asp.net application using
a. Session Objects b. Application Objects c. Viewstate d. **All of the above**

8) Caching type supported by ASP.Net
a. Output Caching b. DataCaching c. **a and b** d. none of the above

9) What is used to validate complex string patterns like an e-mail address?
a. Extended expressions b. **Basic expressions**
c. Regular expressions d. Irregular expressions

10) An alternative way of displaying text on web page using

a. **asp:label** b. asp:listitem c. asp:button

11) Default Session data is stored in ASP.Net.
a. StateServer b. Session Object c. **InProcess** d. all of the above

12) How do you get information from a form that is submitted using the "post" method?
a. Request.QueryString b. **Request.Form** c. Response.write d. Response.writeln

13) Which object can help you maintain data across users?
a. **Application object** b. Session object c. Response object d. Server object

14) Which of the following ASP.NET object encapsulates the state of the client?
a. **Session object** b. Application object c. Response object d. Server object

15) Which of the following control is used to validate that two fields are equal?
a. RegularExpressionValidator b. **CompareValidator**
c. equals() method d. RequiredFieldValidator

16) Which of the following transfer execution directly to another page?

a. **Server.Transfer** b. Response.Redirect c. Both A. and B. d. None of the Above

17) The type of code found in Code-Behind class is _____?
a. **Server-side code** b. Client-side code c. Both A. and B. d. None of the above

18) When an .aspx page is requested from the web server, the out put will be rendered to browser in following format.
a. HTML b. XML c. WML d. JSP

19) Which of the following is true?
a. IsPostBack is a method of System.UI.Web.Page class
b. **IsPostBack is a method of System.Web.UI.Page class**
c. IsPostBack is a readonly property of System.Web.UI.Page class

20) Does the EnableViewState allows the page to save the users input on a form?
a. **Yes** b. No

21) Explain the significance of Server .MapPath a.
Returns the Virtual Path of the web folder
b. Maps the specified virtual path to Physical path
c. **Returns the physical file path that corresponds to virtual specified path** d.
All the above

22) By default, ASP.NET store SessionIDs in _____.
a. **Cookies** b. Cache c. Database d. Global variable

ENTITY

1) Which of the following is True?
a. Entity Framework is an ORM framework.
b. **Entity Framework is an open source ORM framework.**
c. Entity Framework is database mapping tool.
d. Entity Framework is object mapping tool.

2) A pattern of loading related data where a query for one type of entity also loads related entities as part of the query is called:
a. Lazy loading b. **Eager loading** **c.** Explicit loading d. Quick Loading

3) Which of the following development approaches are supported in Entity Framework?
a. Code First b. Database First c. Model First d. **All of the above**

4) What window in Visual Studio display CSDL, MSL and SSDL of Entity Framework?
a. Model window b. Model Browser c. **EDM Designer** d**.** Solution Explorer 5) Which of the following is TRUE?
a. DbContext can not be used in Code First approach
b. ObjectContext is a wrapper around DBContext
c. **DbContext is a wrapper around ObjectContext**
d. DbContext is a sealed class which cannot be override.

6) CSDL stands for

a. Common Schema Definition Language b. **Conceptual Schema Definition Language**
c. Conceptual Store Definition Language d. Conceptual Storage Definition Language

7) Which of the following query syntax can be used to query EDM?
a. LINQ-to-Entity b. Entity SQL c. Native SQL d. **All of the above**

8) An XML-based language that describes the storage model of an Entity Framework application is called
a. SSDL b. CSDL c. EDM d. **MSL**

9) An XML-based language that describes the mapping between the conceptual model and storage model of an Entity Framework Application is called
a. SSDL b. **CSDL** c**.** EDM d. MSL

10) Which of the following is NOT a type of entity?
a. POCO b. POCO Proxy c. EntityObject d. **D: DBSet**

11) Which of the following is NOT TRUE about the Entity Framework?
a. It automatically generates the classes from the model and updates these classes dynamically when the model is changed.
b. It takes care of database connectivity.

c. It provides query syntax for querying the model
d. **It does not provide any mechanism to track changes to the model's objects.**

12) Which of the following is responsible for change tracking management?
a. DBContextManager b. ObjectContextManager
c. **ObjectStateManager** d. EntityObjectManager

13) How to disable Lazy loading using DBContext?
a. myDBContext.Database.LazyLoadingEnabled = false;
b. **myDBContext.Configuration.LazyLoadingEnabled = false**;
c. myDBContext.LazyLoadingEnabled = false;
d. myDBContext.Students.LazyLoadingEnabled = false;

14) Which interface you have to implement to get the reference of ObjectContext from DBContext? **a. IObjectContextAdapter** b. IDBContextAdapter
c. IEntityObjectContext d. IObjectContext

15) An API that can be used to configure a Code First model is called:
a. Fluent API b. CLR API c. POCO API d. T4 Template

MVC

1) MVC stands for _____.
a. Model, Vision & Control **b.** Model, View & Controller
c. Model, ViewData & Controller d. Model, Data & Controller

2) Which of following is TRUE?
a. The controller redirects incoming request to model.
b. **The controller executes an incoming request.**
c. The controller controls the data.
d. The controller render html to view.

3) The model is a _____.

a. Shape of data **b.** Html content c. Collection of data d. Type of data.

4) Which of the following is a type of view in MVC?
a. Partial view b. Executable view c. Data view d. Designer view

5) Which of the followings are Action Selectors?
a. ActionName b. NonAction c. ActionVerbs d. **All of the above**

6) Which is the default http method for an action method?
a. HttpPost b. **HttpGet** c. HttpPut d. HttpDelete

7) Which of the following view file types are supported in MVC?
a. cshtml b. vbhtml c. aspx d. **All of the above**

8) HtmlHelper class _____.
a. Generates html elements b. Generates html view
c. Generates html help file d. Generates model data

9) _____ attributes can be used for data validation in MVC.
a. DataAnnotations b. Fluent API c. DataModel d. HtmlHelper

10) Which of the following view contains common parts of UI?
a. Partial view b. Html View c. **Layout view** d. Razor view
11) How to transfer data from controller to view?
a. Using model object b. Using ViewBag c. Using ViewData d. **All of the above**

12) TempData is useful to _____.
a. Transfer data from view to controller
b. **Transfer data from one page to another page**
c. Transfer data from controller to controller
d. Store data permanently.

13) What is action filters?
a. Action filter executes before and after action method executes.
b. Action filter executes before action method executes.
c. Action filter executes after action method executes.
d. Action filter executes parallel to action method.

14) Bundling allows _____.
a. Loading of multiple images in single request b. Loading of multiple view files in single request.
c. Loading of caching of multiple script files d. **Loading of multiple script files in single request.**

15) Which of the following is a default route pattern in MVC?
a."/{action}/{controller}/{id}" b."{controller}/{id}"
c."{controller}/{action}/{id}" d."{controller}/{action}"

16) Which of the following default class is used to configure all the routes in MVC?
a. FilterConfig b. RegisterRouteConfig c. **RouteConfig** d. MVCRoutes

17) Which of the following method of html helper generates html control based on the data type of specified property?

a. Html.TextBox b. Html.Password c. **Html.Editor** **d.** Html.Display

18) Which is the best approach to assign a session in MVC?
A) System.Web.HttpContext.Current.Session["LoginID"] =7;
B) **Current.Session["LoginID"] =7;**
C) Session["LoginID"] =7;
D) None

19) RedirectToActionPermanent() Method for which Status code represents?
A) 304 B) 302 **C) 301** D) 300 E) None

20) RedirectToAction() Method for which Status code represents?
A) 304 **B) 302** C) 301 D) 300 E) None

21) What is ActionResult() ?
A) It is an abstract Class B) It is a Concrete Class
C) Both A and B D) None

22) What is ViewResult() ?
A) It is an abstract Class **B) It is a Concrete Class**
C) Both A and B D) None

23) return View() works like in ASP.Net MVC C# as
A) Server.Transfer() B) Response.Redirect()
C) Both A and B D) None

24) RedirectToAction() works like in ASP.Net MVC C# as
A) Server.Transfer() **B) Response.Redirect()**
C) Both A and B D) None

25) In which format data can be return from XML into table ?
A) DataSet B) Datatable C) A and B D) None

26) Can we use view state in MVC ?
A) Yes **B) No** C) Both A & B D) None

27) What Request Processing technique follows ASP.Net ?
A) Top-Down B) Down-Up **C) Pipeline** D) Water fall

28) What is DRY principle in ASP.Net ?
A) Don't repeat yourself. B) Don't revise yourself.
C) both a and b D) None

29) What is default authentication in Internet Information Services (IIS)?

A) Standard User B) Administrator **C) Anonymous** D) None

30) What is the extension of MVC view when using C#?

A) cshtml B) vbhtml C) None D) Both A & B

31) What is the extension of MVC view when using vb.net?
A) cshtml **B) vbhtml** C) None D) Both A & B

32) How can you comment using Razor Syntax?
A) *@ Comment me *@ **B) @* Comment me *@**
C) @* Comment me @* D) *@ Comment me @*

33) Which Namespace is used for Razor View Engine ?
A) System.Web.Razor B) System.Web.Mvc.WebFormViewEngine
C) Both A & B D) None

34) Which Namespace is used for ASPX View Engine ?
A) System.Web.Razor **B) System.Web.Mvc.WebFormViewEngine**
C) Both A & B D) None

35) The Razor View Engine uses to render server side content.
A) @ B) <%= %> C) Both A & B D) None

36) The ASPX View Engine uses to render server side content.
A) @ **B) <%= %>** C) Both A & B D) None

37) Which is more faster between ASPX View Engine and Razor View Engine.
A) ASPX View Engine B) Razor View Engine C) Both A & B D) None
38) Does Razor Engine supports for TDD ?
A) Yes B) No C) None

39) Does ASPX View Engine supports for TDD ?
A) Yes **B) No** C) None

40) How to Print value from Controller to View in MVC ?
A) ViewBag.ECMDetail = "my message"; and in view @ViewBag.ECMDetail
B) ViewBag.ECMDetail = "my message"; and in view ViewBag.ECMDetail
B) ViewBag.ECMDetail = "my message"; and in view ViewBag.Title
D) None

41) What are the advantages of using ASP.NET routing?
Answer: Clean URLs is originally brought from Ruby on Rails. http://www.technologycrowds.com?abc=10 , now clean URL in MVC ASP.Net will be work like http://www.technologycrowds.com/abc/10

42) What is the significance of ASP.NET routing?
Answer: Default Route Name:
"{controller}/{action}/{id}", // URL with parameters

By default routing is defined under Global.asax file. MVC ASP.Net uses routing to map between incoming browser request to controller action methods.

43) Can be it possible to share single view across multiple controllers in MVC?

Answer: We can put the view under shared folder, it will automatically view the across the multiple controllers.

44) Are MVC and Web API merged into one in MVC 6?

A) Yes B) No C) Both A & B D) None

45) Does MVC 6 introduced new JSON project based structure?

A) Yes B) No C) Both A & B D) None

46) Does MVC 6 allow only save change, hitting the save but then refreshing the browser to reflect changes?

A) Yes B) No C) Both A & B D) None

47) Does vNext is now Open Sourced via the .NET Foundation and open to public contributions.

A) Yes B) No C) Both A & B D) None

48) Can vNext runs on both Mac and Linux today (Mono Version)?

A) Yes B) No C) Both A & B D) None

49) What is the difference between MVC (Model View Controller) and MVP (Model View Presenter)? **Answer**: MVC controller handles all the requests, MVP handles as the handler and also handles the all requests as well.

50) How does work Viewstart in MVC (ASP.Net)?

A) Viestart is used to layout of the application.
B) Viewstart is used like Masterpage in traditional forms (ASP.Net pages).
C) Viewstart render first in the views.
D) **A, B and C.**
E) None

51) Viewstart comes under which folder name ?

A) Views B) Account C) Shared D) Home

52) Does Viewstart override all Views layout/template under "Views" folder in MVC ?

A) Yes B) No C) Both A & B D) None

53) What is the name of default Viewstart Page in ASP.Net MVC ?

A) _ViewStart.cshtml B) _Layout.cshtml C) _Login.cshtml D) None

54) Can we use third party View Engine using ASP.Net MVC Engine ?

Yes, below are the top five alternative ASP.Net MVC View Engines.

1. **Spark** (Castle MonoRail framework projects), Open Sourced, it is popular as MVCContrib library.

1. **NHaml** works like inline page templating.
1. **NDjango** uses F# Language.
1. **Hasic** uses VB.Net, XML.
1. **Bellevue** for ASP.NEt view, It respects HTML class first.

55) What is scaffolding using ASP.Net MVC Engine?
Answer: Scaffolding helps us to write CRUD operations blend using Entity Framework, It helps developer to write down simply even yet complex business logic.

56) What is life cycle in ASP.Net MVC Engine?
Step 1: **Fill Route** (Global.asax file will hit first).
Step 2: **Fetch Route**: It will gether information about controller and action to invoke.
Step 3: **Request** context
Step 4: **Controller instance:** it calls Controller class and method.
Step 5: **Executing Action:** It determines which action to be executed
Step 6: **Result (View):** Now Action method executed and returns back response to view in differentiating forms like Json, View Result, File Result etc.

57) Which is the way to render Partial View using ASP.Net MVC Razor Engine?
A) @Html.Partial("_PartialHeader")B) @Html.PartialView("_PartialHeader") C) @Html.PartialHtml("_PartialHeader")
D) B and C
E) None

58) Which Namespace is used to "Display" in Data Annotation using MVC ?
A) System.ComponentModel B) System.ComponentModel.DataAnnotations
C) Both A and B D) None

59) Which Namespaces are required to Data Annotation using MVC ?
A) System.ComponentModel B) System.ComponentModel.DataAnnotations
C) Both A and B D) None

60) Are both TempData/ViewData require typecasting in MVC?
A) Both (TempData/ViewData) requires type casting to avoid null exception.
B) No, these (TempData/ViewData) does not require type casting.
C) Both A) & B)
D) None

61) Is ViewBag slower than ViewData in MVC?
A) Yes B) No C) Both A) & B) D) None

62) Is ViewData faster than ViewBag in MVC?
A) Yes B) No C) Both A) & B) D) None

63) Are both TempData/ViewData property of Controller base class in MVC?
A) Yes B) No C) Both A) & B) D) None

64) Does TempData used to pass data from one page to another page in MVC?
A) Yes B) No C) Both A) & B) D) None

65) Can ASP.Net Web API specialize to XML or JSON ?
A) Yes B) No C) None

66) Does Web API (ASP.Net) supports to non SOAP based like XML or JSON ?
A) Yes B) No C) None

67) Does Web API (ASP.Net) supports to both version mobile apps and others ?
A) Yes B) No C) Both A & B D) None

68) Can ASP.Net Web API, it works HTTP standard verbs like POST, GET, PUT, DELETE (CRUD Operations) ?
A) Yes B) No C) Both A & B D) None

69) Can ASP.Net Web API ability to both self hosting (outside of IIS) and IIS ?
A) Yes B) No C) None

70) Can ASP.Net Web API has ability to transport non HTTP protocols like TCP, UDP, Named Pipes etc ?
A) Yes **B) No** C) None

71) What is AuthConfig.cs in ASP.Net MVC ?
A) AuthConfig.cs is used to configure route settings
B) **AuthConfig.cs is used to configure security settings including sites oAuth Login.** C) None
D) All

72) What is BundleConfig.cs in ASP.Net MVC ?
A) BundleConfig.cs in MVC is used to register filters for different purposes.
B) **BundleConfig.cs in MVC is used to register bundles used by the bundling and minification, serveral bundles are added by default like jQuery, jQueryUI, jQuery validation, Modernizr, default CSS references.** C) All
D) None

73) What is FilterConfig.cs in ASP.Net MVC ?
A) FilterConfig.cs is used to register global MVC filters, HandleErrorAttribute is registered by default filter. We can also register other filters.
B) FilterConfig.cs is used to register global MVC bundles.
C) None
D) All

74) What is RouteConfig.cs in ASP.Net MVC?
A) RouteConfig.cs is used to register MVC config statements, route config.
B) RouteConfig.css is used to register global MVC bundles.
C) None

D) All

75) What is the difference between HtmlTextbox and HtmlTextboxFor using ASP.Net MVC Razor Engine?
A) @Html.TextBox is not strongly typed, @Html.TextBoxFor is strongly typed that is why should be use @Html.TextBoxFor in MVC Razor Engine.
B) @Html.TextBox is strongly typed, @Html.TextBoxFor is not strongly typed that is why should be use @Html.TextBox in MVC Razor Engine.
C) None
D) Both A and B

76) What is the benefits of Html.RenderPartial using ASP.Net MVC Razor Engine? A) @Html.RenderPartial Returns response, moreover requires to create action.
B) @Html.RenderPartial Returns nothing (void), it is faster than @Html.Partial, moreover requires not to create action. C) None
D) Both A and B

77) What is the benefits of Html.Partial using ASP.Net MVC Razor Engine?
A) @Html.RenderPartial Returns response, moreover requires to create action.
B) **@Html.RenderPartial Returns string value, it is slower than @Html.RenderPartial, moreover requires not to create action.**
C) None
D) Both A and BSyntax@Html.Partial("_viewname");

78) How to check Request coming from which controller using MVC ASP.Net?
A) var _controller = HttpContext.Current.Request.RequestContext.Values["Controller"].ToString(); **B) var _controller = HttpContext.Current.Request.RequestContext.RouteData.Values["Controller"].ToString();** C) var _controller = RouteData.Values["Controller"].ToString();
D) None

79) For which ModelState.IsValid Validate ?
A) It checks for Entityframework Model state.
B) **It checks for valid Model State using DataAnnotations.**
C) It checks for SQL database state.
D) None

80) Which Name space is used to create chart using ASP.Net MVC?
A) using System.Web.MVC; **B) using System.Web.Helpers;**
c) using System.Web.Chart; D) All

81) How can we write Chart output to MVC View?
A) .Write(bmp); B) Write("bmp"); **C) .Write("bmp");** D) All

82) Which name space using can send email in ASP.Net MVC?
A) using System.Net.Mail; B) using System.Net;
C) using System.Mail; D) None

83) If Razor View Engine need to add JQuery function and contain @ special character then how we can write it in Razor View?
A) Replace @ to @@@ (tripple) **B) Replace @ to @@ (double)**
C) None D) Both (A & B)
84) How to set Default Value to Hidden Input Box using ASP.Net MVC?
A) @Html.HiddenFor(m => m.Name, "Jack")
B) **@Html.HiddenFor(m => m.Name, new { Value = "Jack"})**
C) @Html.Hidden(m => m.Name, new { Value = "Jack"})
D) None

85) How to check all errors of Model using ASP.Net MVC?
A) var errors = Model.Values.SelectMany(v => v.Errors);
B) var errors = ModelState.SelectMany(v => v.Errors);
C) **var errors = ModelState.Values.SelectMany(v => v.Errors);**
D) None

86) AuthConfig.cs file is under in which App folder ?

A) App_Data **B) App_Start**

87) BundleConfig.cs file is under in which App folder ? C) Content D) Filters
A) App_Data **B) App_Start**

88) FilterConfig.cs file is under in which App folder ? C) Content D) Filters
A) App_Data **B) App_Start**

89. RouteConfig.cs file is under in which App folder ? C) Content D) Filters
A) App_Data **B) App_Start** C) Content D) Filters

90) WebApiConfig.cs file is under in which App folder ?
A) App_Data **B) App_Start** C) Content D) Filters

91) Can you list the main types of result using ASP.Net MVC?
There are total 10 main types of result, **ActionResult** is main type and others are sub types of results as listed below:

- System.Web.Mvc.ActionResult
- System.Web.Mvc.ContentResult
- System.Web.Mvc.EmptyResult
- System.Web.Mvc.FileResult
- System.Web.Mvc.HttpStatusCodeResult
- System.Web.Mvc.JavaScriptResult
- System.Web.Mvc.JsonResult
- System.Web.Mvc.RedirectResult
- System.Web.Mvc.RedirectToRouteResult
- System.Web.Mvc.ViewResultBase

92) Which filter will be execute at first using ASP.Net MVC?

A) Action filters **B) Authorization filters** C) Response filters D) Exception filters

93) Which filter will be execute at last using ASP.Net MVC?
A) Action filters B) Authorization filters **C) Exception filters** D) Response filters

WCF

1. Which of the following is NOT true?
A) A WCF Service can be consumed by Windows applications
B) A WCF Service can be consumed by Web applications
C) A WCF Service can perform calculations
D) **A WCF Service cannot return a dataset**

2. WCF services can communicate with _____.
A) all programming languages
B) XML
C) only the languages included with Visual Studio .NET
D) **multiple platforms and multiple languages**

3. The standard method for storing data that can be transferred easily from one machine or platform to another is _____.
A) XML B) SOAP C) WSDL D) WCF

4. One of the advantages of using _____ is that data are transmitted in a text format rather than a binary format.
A) XML B) SOAP C) WSDL D) WCF

5. Data that is in _____ format can pass through many firewalls that _____ cannot penetrate.
A) binary, text **B) text, binary** C) SOAP, WCF D) WCF, SOAP

6. _____ is a popular standard that includes a set of rules for handling requests and responses including class names, method names, and parameters.
A) XML B) WCF C) WSDL **D) SOAP**

7. The information about the names of the methods, the parameters that can be passed, and the values that are returned from the functions is controlled in some Web services by a description specified in _____.
A) XML **B) SOAP** C) WSDL D) WCF

8. Always end your URI (or URL) with a _____ to avoid an extra trip to the server to determine that it is a site rather than a directory.
A) hyphen **B) slash** C) backslash D) double slash

9. A resource on the Web is uniquely identified by its URI, which means _____.

A) Uniform Resource Identifier B) Universal Registered Identifier C) Uniform Registered Identifier D) Universal Resource Identifier

10. To add a WCF Service, select the solution name in the Solution Explorer and select _____ from File menu.
A) Add / New Solution **B) Add / New Web Site**
C) Add / New Service D) Add / New Library

11. You have created a new service based on Windows Communication Foundation and also a client application to test the service. You want add an endpoint in the web.config file of the client application to use the new service. Which values should you include in you service element of the web.config file? A. Address B. Contract C. Binding **D. All of these**

12. A service contract specifies what an endpoint communicates to the outside world. At a more concrete level, it is a statement about a set of specific messages organized into basic message exchange patterns (MEPs), such as request/reply, one-way, and duplex. Which of the following is NOT part of the Service Contract specification:
A. The data types of messages B. The specific protocols and serialization formats C. The location of the operations **D. The frequency of messages per second**

13. Services are groups of operations. To create a service contract you usually model operations and specify their grouping. In Windows Communication Foundation (WCF) applications, developers define the operations by creating a method and marking it with the which attribute? A. ServiceContractAttribute B. DataMemberAttribute
C. DataContractAttribute **D. OperationContractAttribute**

14. You've created a new class in your .NET project that contains a wide variety of operations grouped together to form part of a Server Contract. You now need to add an attribute to the class to define it as a service contract. Which attribute should you use?
A. OperationContractAttribute B. DataMemberAttribute
C. DataContractAttribute **D. ServiceContractAttribute**

15. Both classes and interfaces represent a grouping of functionality and, therefore, both can be used to define a WCF service contract. However, it is recommended that you use interfaces because they directly model service contracts. Without an implementation, interfaces do no more than define a grouping of methods with certain signatures. Which of the following is a benefit of using interfaces to define Service Contracts?
A. Service contract interfaces can extend any number of other service contract interfaces.
B. You can modify the implementation of a service contract by changing the interface implementation, while the service contract remains the same
C. A single class can implement any number of service contracts by implementing those service contract interfaces.
D. **All of these**

16. You have created a new class which will be the basis for a Service Contract. You have used

ServiceContractAttribute and OperationContractAttribute to decorate the class and the methods. Which of the following is NOT an advantage of using classes instead of interfaces for Service Contracts?

A. Speed
B. All of these are disadvantages
C. Simplicity
D. Multiple Inheritance

17. Which of the following is TRUE regarding service operations and references to objects?

A. Objects must be serializable
B. You can't return values from service operations
C. Objects are passed as references
D. You can't pass parameters to service operations

18. You've created a new class and decorated it with the DataContractAttribute so that it forms a Data Contract for WCF. This class contains several attributes that you want to make available as part of the Data Contract. Currently these attributes are declared as private. What do you need to do to ensure these attributes are serializable?

A. Add the DataMemberAttribute and change the type to public
B. Add the DataContractAttribute to the attribute
C. Change the type to internal
D. **Add the DataMemberAttribute or change the type to public**

19. A developer has designed a service that contains a method called TakeAction which is decorated with the following attribute:

[OperationContractAttribute(IsOneWay=true)]

Another client application will invoke the TakeAction operation and continue processing after WCF writes the message to the network. What must the developer of the TakeAction method do to ensure the client action can call this method?

A. Use object as the return type
B. Use FaultException as the return type C. Remove all parameters from the method signature
D. Use void as the return type

20. The signature of a service operation dictates a certain underlying message exchange pattern (MEP) that can support the data transfer and the features an operation requires. You want to adopt a pattern that supports the sending and receiving of messages by both the service and client. Which patter should you choose?

A. one-way
B. none of these
C. request/reply
D. duplex

21. Study the following line of code:

OperationContext.Current.GetCallbackChannel();

The ICalendarDuplexCallback interface is defined as the CallbackContract property in the Service Contract. In which class should you use this line of code?

A. Client
B. You should never use this
C. Both
D. Service

22. A client application interacts with a new Service that calculates interest rates for the banks customers. The Service Contract contains BasicHttpBinding as the binding type in the endpoint configuration. The service contains some methods that return sensitive information such as customers names and addresses. You want to ensure that these methods are encrypted. What should you do?

A. Set the ProtectionLevel to None in the ServiceContractAttribute
B. **Set the ProtectionLevel in the OperationContractAttribute to EncryptAndSign for each of the sensitive methods**

C. Nothing, all messages will be encrypted and signed already
D. Set the ProtectionLevel to Sign in the ServiceContractAttribute

23. Which of the following is FALSE regarding the WSHttpBinding class?
A. Provides WS-Addressing
B. Provides un-encrypted messages by default
C. Provides reliable messaging
D. Provides transactions

24. In Windows Communication Foundation (WCF) applications, which of the following is FALSE regarding Sessions?
A. Messages delivered during a session are processed in the order in which they are received
B. **They are explicitly initiated and terminated by the receiving application**
C. There is no general data store associated with a WCF session
D. D. Sessions correlate a group of messages into a conversation

25. The instancing behaviour (set by using the System.ServiceModel.ServiceBehaviorAttribute.InstanceContextMode property) controls how the InstanceContext is created in response to incoming messages. You have created a new WCF service and set the InstanceContextMode to PerCall. What is the behaviour of the InstanceContext in this mode?
A. A new InstanceContext is created for each call
B. A new InstanceContext is created for each channel
C. A new InstanceContext is created for all calls
D. A new InstanceContext is never created

26. When configuring a WCF service using Visual Studio, you can use either a Web.config file or an App.config file to specify the settings. The choice of the configuration file name is determined by the hosting environment you choose for the service. Where does the endpoint configuration element lie in a .NET configuration file?
A. System.ServiceModel – bindings – endpoint
B. **System.ServiceModel – services – service – endpoint**
C. System.ServiceModel – endpoint
D. System.ServiceModel – behaviors – behavior – endpoint

27. The System.ServiceModel.Channels namespace contains the DeliveryFailure enumeration. DeliveryFailure specifies the possible types of delivery failure for a message read from the queue. Which of the following elements is a valid DeliveryFailure?
A. BadSignature
B. AccessDenied
C. ReceiveTimeout
D. All of these

28. Which class in WCF represents the unit of communication between endpoints in a distributed environment?
A. RequestContext
B. Message
C. Binding
D. ChannelBase

28. Windows Communication Formats (WCF) is Microsoft's technology for communicating between applications on the same computer system, on a network, or across the
A. True
B. False

29. It is possible for a single application to be both a client and a service.

A. True B. False

30. WCF cannot communicate with other platforms that support SOAP and simple XML.
A. True **B. False**

31. An endpoint indicates where messages can be sent (address).
A. True B. False

32. Data that is in binary format can pass through any firewall.
A. True **B. False**

33. WSDL contains information about the names of the methods, the parameters that can be passed, and the values that are returned from the functions.
A. True B. False

34. For technical specifications, the industry standard term URL is preferred to URI.
A. True **B. False**

35. The transport protocol used by SOAP is HTTP.
A. True B. False

36. To rename a Web Service you need to change only the name in the Solution Explorer.
A. True **B. False**

37. When a new project is added to a WCF Service solution, the projects are saved independently.
A. True B. False

Web API

1. Web API, an object that handles HTTP requests is known as a
   a) Model **b) Controller** c) Properties d) Web server

2. Web API supports which of the following protocol?
   a) TCP **b) HTTP** c) Soap d) All of the above

3. Q.12) Web API supports which of the following request/response data formats by default?
   a) JSON b) XML c) BSON **d) All of the above**

4. Which of the following .NET framework supports Web API?
   a) .NET 2.0 b) .NET 3.0 c) .NET 3.5 **d) .NET 4.0**

5. Which of the following statement is TRUE?
   a) Web API can be configured using web.config.
   b) Web API can only be configured by code.
   c) Web API can be configured using app.config.

d) None of the above

6. Web API uses which of the following open-source library for JSON serialization?
a) Json.NET b) JsonFormatter.NET c) GetJson.NET d) None of the above

7. Web API controller must be derived from _____.
a) Controller class **b) ApiController class**
c) WebApiController class d) WebController class

8. Which of the following types of routing is supported in Web API 2?
a) Attribute Routing b) Convention-based Routing
c) All of the above d) None of these

9. Which of the following types are valid response types of Web API 2 action method?
a) HttpResponseMessage b) IHttpActionResult
c) Custom types **d) All of the above**

10. Web API sends which of the following status code on successful execution?
a) 200 b) 201 c) 500 d) 404

11. Which of the following is a formatter class for JSON?
a) JsonMediaTypeFormatter b) JsonMediaFormatter
c) Json.Net c) None of the above

12. Which of the following property returns all the formatters in Web API?
a. GlobalConfiguration.Configuration.JsonFormatter
b. Configuration.Formatters
c. GlobalConfiguration.Formatters
d. GlobalConfiguration.Configuration.Formatters

13. Web API Filters are used _____.
a. to add an extra logic before or after action method executes
b. to provide authentication and authorization.
c. to Launch Web API
d. to host Web API

14. Web API extract the values of primitive type parameters of an action method from _____ by default.
a) HTTP Request Body b) HTTP Header
c) Message Header d) **Query String**

15. Web API extract the values of complex type parameters of an action method from _____ by default.
a) HTTP Request Body b) HTTP Header
c) Message Header d) Query String

16. By default, Web API sends HTTP response with which of the following status code for all uncaught exception?
a) 404 - Not Found b) **500 - Internal Server Error**

c) 204 - No content. d) None of the above

17. Which of the following is used to check the validity of the model in Web API?
    a) Mode.Valid b) Model.IsValid
    c) **ModelState.IsValid** d) ModelState.Valid

18. Web API 2 is supported in _____.
    a) **.NET 4.5** b) .NET 4.0 c) .NET 3.5 d) .NET 3.0

19. Which of the following is true?
    a. Web API can be self-host.
    b. Web API can be host in IIS.
    c. Web API can be host in any web server that supports .NET Framework.
    d. All of the above

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BASIC

1. What is the output of the following code?
inti = 16; intj = 17;
System.out.println("i >> 1 = " + (i >> 1)); System.out.println("j >> 1 = " + (j >> 1)); A.
Prints "i >> 1 = 8"
"j » 1 = 8"
B. Prints "i >> 1 = 7" "j » 1 = 7"
C. Prints "i >> 1 = 8"
>> 1 = 9"
D. Prints "i >> 1 = 7"
"j >> 1 = 8"

2. What is the output of the following code?
int i = 45678; intj = -i; system.out.println(j);
A. Compilation error at line 2-. ~ operator applicable to boolean values only.
B. prints 45677.
c. Prints -45677. **D.**
Prints -)45679.

3. What will happen when you invoke 'the following method?
void infiniteLoop()
{
byte b = 1; while (++b > 0); System.out.println("Welcome to Java");
}
A. The loop never ends(infiniteLoop).
B. **Prints "Welcome to Java". '**
C. Compilation error at line 5. ++ operator should not be -~ used for byte type variables.
D. Prints nothing.

4. What is the output for the following lines of code?
System.out.printin(" " +2 + 3);
System.out.printin(2*+ 3); System.out.println(2 + 3 +"")-; system.out;println(2+""+3);
A. Compilation,error at line 3
B. **Print s 23,6,5 ,2,3**
C. Prints 5, 5, 5 and 23.
D. Prints 23, 5, 23 and 23.

5. What will happen if you compile/ run this code?
inti = 012; intj = 034; int k = 056; int l = 078;
System.out:println(i);
System.out.println(j);
System.out.println(k);
A.Prints12,34"and56. * ~
B. Prints 24,68 and 112.
C. Prints 10,28 and 46.
D. **Compilation error**

6. When executed the following line of code will print
System.out.println(-1 * Double.NEGAT|VE_|NFINITY);
A. –Infinity **B. Infinity** C. NaN D. –NaN

7.. Which of the following are the correct signatures for method main()?
A. public static void main()
B. public static int main(String arg[])
C. public static void main(String arg[])
D. **public static void main(String args[])**
E. private static void main(String args[])

8. Which of the following statements is/ are true? **A.**
Java provides automatic garbage collection.
B. The garbage collector is a low priority thread.
C. The method gc, when executed from a method, runs garbage collector.
D. If certain precautions are not taken, the garbage collector may collect some objects still in use.
E. You can force garbage collection of an object by setting all references to that object to null.

9. What is the size of a byte datatype?
A. -128 to 127
B. (-2 power 8)-1 to 2 power 8
C. -255 to 256
D. depends on the particular implementation of the Java Virtual machine

10. Which line out of the following will compile without a warning or an error?
A. boolean b=null; B. float f=1.3; C. byte b=257; **D. int i=10;**

11. jvm Is_____
A. platform dependant B. platform Indepedent

C. depends on jvm implementation D. Both b and c

12. return type of main method is

A. int B. char **C. void** D. None of the above

13. Garbage collection works on

A. heap B. queue C. tree D. None of the above

14. What will be printed out if you attempt to compile and run the following code int i=1; switch (i)

```
    {           case O:
System.out.prinUn("zero"); break; case 1:
System.out.println("one"); case 2:
     System.out.prinUn("two"); default:
System.out.println("default");
}
```

A. One B. one, default **C. one,two,default** D. Default

15. If a local variables of a method shop() belonging to a class called Walmart has the same name as a data member of Walmart, which value is used when shop() is executing?

A. **the local variable's** B. the class variable's

C. the data member's D. None of the above since this would cause a compiler error

16. void main()

```
{
int k=35,*z,*y; z=&k; y=z *z =++*y; k++;  printf("%d
%d",k,++*z,*y++);
}
```

A. 363637 **B. 383837** C. 373737 D. none of these

17. what is the output of the following c program:

```
int fun (int i)
{
printf("in funtions int i");
}
void fun(int & i)
{
printf("in functions int& i");
}
main()
{
int i=9;
fun(i)-;
}
```

A. ambiguity error B. in functions int& i C. in funtions int i

D. syntax error E. runtime error

18. what will be the output of the following program? void main()
{
char *s="12345s\n\t";
printf("%d",sizeof(s)+str|en(s));
}

A. 17 B. 14 C. 12 D. 10 E. 7

19. char *f()
{
char *s=(char*)ma||oc(8);
strcpy(s, "goodbye");
return 5;
}
void main()
{
char *f();
printf("%c", *f()='z');
}

A. goodbye B. zoodbye C. g D. 10 **E. Z**

20. what will be the output of the following program?
main()
{
Int,I;
Unsigned num=71;
For(i=16;I;--i)
{
Printf("%d",(num<<i&1<<16)?1:0);
}
}

A. 0000000000010111 B. 1110001100000000
C. 1110001000000000 D. 01100000010000000

21. void main()
{
int y; unsigned int x=1; v="0; iflx==y) printf("equa|"); else printf("not equal");
}

A. equal **B. not equal** C. compile time errortype mis-match
D. runtime E. compile time error |value required

AWT

1. Adapter class is not available for

A. ItemListener B. MouseLIstener C. KeyListener D. WindowListener

2. Given public class MyApp extends Applet

```
{
        public MyApp(int k)
            {
            }
}
```

What will happen to the above code?

A. compilation error "cannot instantiate MyApp"
B. runtime error "paint() method not available"
C. **runtime error "InstantiationException"**
D. compilation error "paint() not defined"

3. Given public class MyApp2 extends Applet

```
{
        @Override
    public void init() {
setLayout(new GridBagLayout());
    GridBagConstraints gbc=new GridBagConstraints();  gbc.gridwidth=3;
  gbc.gridheight=2;  add(new Button("ok"));
            }

}
```

What will happen?

A. compiler error "add method must take 2nd argument as GridBagConstraints"
B. exception during runtime
C. Button will appear according to gridwidth and gridheight specified
D. **Button will appear but not according to gridwidth and gridheight specified.**

4. Select correct statement from the following

A. BorderLayout is the default layout for Applet
B. GridLayout can not work without GridBagConstraints
C. **pack() method displays window in a preferred size**
D. FlowLayout can not be used for swing components

5. Given setLayout(new BorderLayout()); add("south",new TextField(20)); What will happen to the above code?

A. compiler error
B. textfield will be displayed properly at south
C. **exception**
D. textfield will be displayed in the center,since u have given illegal argument.

6. Select the wrong statements from the following

A. Applet extends Panel B. FileDialog extends Dialog C. **Dialog extends Frame** D. Window extends Container

7. Given public class Trial extends Frame

```
{
        public Trial(String mess)
        {
                MenuBar mb=new MenuBar();
                // here
        }
}
```

How will u add "mb" to the frame?

A. addMenuBar(mb); **B. setMenuBar(mb);** C. mb.addMenuBar(); D. add(mb);

8. Which method is required to read parameters pass to Applet?

A. **getParameter** B. getInitParameter C. getAppletParameter D. none of these

9. What is sent to the user via HTTP, invoked using the HTTP protocol on the user's computer and run on the user's computer as an application?

A. A Java application B. **A Java applet**
C. A Java Servlet D. None of the above

10. java.awt.Component class method getLocation() returns Point (containg x and y cordinate).What does this x and y specify

A. Specify the position of components lower-left component in the coordinate space of the component's parent.
B. **Specify the position of components upper-left component in the coordinate space of the component's parent.**
C. Specify the position of components upper-left component in the coordinate space of the screen. D. None of the above

11. When u invoke "repaint()", for a lightweight component , the AWT package calls which component method?

A. repaint() B. **update()** C. paint() D. draw()

12. Which of the following the valid way to embed an applet class named myapplet into a web page.

A. <applet class=myapplet.class width=100 height=100> </applet>
B. <applet code=myapplet width=100 height=100> </applet>
C. **<applet code=myapplet.class height=100 width=100 > </applet>** D. <applet param=myapplet.class width=100 height=100> </applet>

13. What is the purpose of "code" attribute of the applet tag? A.
A URL that points to the class of the applet.
B. A URL to the applet when it is stored in jar or zip file.
C. Indicate the base URL of the applet if the code attribute is relative.
D. Defines the horizontal spacing around the applet.

14. Executable applet is nothing but _____ file of applet.

A. class B. java C. html D. applet

15. What does the following line of code do? TextField tf=new TextField(30);

A. This code is illegal , as there is no such constructor available inside "TextField" class.

B. Creates the TextField object, that can hold 30 rows, but since it is not initialized to anything, it will be always empty.
C. **Creates a new TextField object that is 30 columns of text.**
D. This code creates a TextField object that can hold 30 rows of text

16. Select correct statement from the following
A. Invisible components are required in SwingLayout
B. **BorderLayout is the default layout for JApplet**
C. The default lookandfeel for swing components is MotifLookAndFeel.
D. Swing does not have DelegationEvent model.

17. Method to apply menubar to the swing container is:
A. addMenuBar() B. **setJMenuBar()**
C. setSMenuBar() D. setMenuBar()

18. Select wrong statement from the following A. FlowLayout is the default layout for Applet.
B. By default Frame is invisible.
C. pack() method displays window in a preferred size
D. **None of these.**
19. Given setLayout(new BorderLayout()); add(new TextField(20)); What will happen to the above code ?
A. compiler error
B. exception
C. textfield will not be displayed since u haven't mentioned an area.
D. **textfield will be displayed in the center.**

20. Given import java.awt.*; public class MyFr2

```
{
      Button b1,b2;
     public MyFr2(String title)
            {
              Frame f=new Frame(title);
            f.setLayout(new BorderLayout());
    b1=new Button("ok");          b2=new
Button("cancel");
              f.setLayout(new FlowLayout());
                    f.add(b1);
                    f.add(b2);
             f.setSize(400,400);
              f.setVisible(true);
            }
     public static void main(String args[])
            {
              new MyFr2("My Window");
            }
}
```

What will happen to the above code ?
A. compiler error "can not set layout twice"

B. frame will be displayed with only one "cancel" button
C. **frame will be displayed with two buttons.**
D. exception during runtime.

CLONE REFLECTION API

1) Cloneable interface contains "clone()" method
A. True B. False

2) Clone method is declared as throws

A. IOException B. CloneNotFoundException
C. CloneNotSupportedException D. None of the above

3) Clone() method in Object class is
A. **Protected** **B.** Public C. Default D.Private

4) If u override "clone()" method u can apply access modifier
A. Protected B. Public **C. protected or public** D. Default

5) By default "clone" method does

A. Shallow copy B. Deep copy C. Shallow and deep both copies D. None

6) Interface which does not contain any method is called as
A. Empty B. Methodless **C. Marker** D. Void

7) Inner class methods can access outer class members directly
A. True B. False

8) Static nested class methods can access outer class members directly
A. True B. **False**

9) There is one instance of class "Class" per class loaded.
A. True B. False

10) To instantiate a particular class through reflection api we use
A. New Class B. **Class.newInstance** C. Class.newCreate D. None of the above

COLLECTION API

1. One of the following throws ConcurrentModificationException if we try to modify while iterating over it.
A: Hashtable B: CopyOnWriteArrayList
C: ArrayList D: ConcurrentHashMap

2. The default capacity and load factor for Map implementations are
A: 12 and 0.60 **B: 16 and 0.75** C: 20 and 0.75 D: 18 and 0.60

3. Given
Class Animal{void eat(){}}
Class Dog extends Animal{}

Class Cat extends Animal{}
Void disp(List<? super Dog> mylist)
Which of the following is the wrong argument to disp ?

A: ArrayList of Animal
B: ArrayList of Dog
C: ArrayList of Object
D: All the above are correct arguments.

4. Which statement is true ?

A: List<?> will allow u to add inside list.
B: List<Object> will allow u to add inside list
C: both A and B
D: we can pass ArrayList<Integer> to List<Object>

5. Which collection class allows you to grow or shrink its size and provides indexed access to its elements, but whose methods are not synchronized?

A: java.util.HashSet
B: java.util.LinkedHashSet
C: java.util.List
D: java.util.ArrayList

6. Which of the following class uses String as key to store the value in object?

a) Dictionary b) Array c) ArrayList d) **Properties**

7. Which of these class objects uses key to store value?

a) Hashtable b) Dictionary c) Map d) **all if the mentioned**

8. _____ can be used to control the order of certain data structure and collection of object too.

a) Serial comparators b) natural comparators
c) **comparators** d) all of the above

9. How does the set collection deal with duplicate elements?

A. An exception is thrown if you attempt to add an element with a duplicate value
B. **The add method returns false if you attempt to add an element with a duplicate value**

C. A set may contain elements that return duplicate values from a call to the equals method
D. Duplicate values will cause an error at compile time

10. What is the sequence followed by HashMap or HashSet while adding or retrieving entries.

A: ==, equals(), hashcode() B: equals(), == , hashcode() **C: hashcode() , == , equals()** D: none of these

11. If you try to invoke "remove()" method on iterator of CopyOnWriteArrayList , it raises following exception

A: ConcurrentModificationException **B: UnsupportedOperationException** C: IllegalOperationException
D: none of these

12. Map implementation which provides both Thread-Safety as well as Concurrency.

A: ConcurrentHashMap B: HashMap C: HashTable D: none of these

13. Stream API is used to implement

A: Internal iteration
B. External iteration
C. Both A and B
D. None of the above

14. In get () or put() of map implementation equals () is Called before ==.
A. True B. **False**

15. Algorithms are present inside.
A. LinkedList B. Collection **C. Collections** D. Hashtable

16. Iterator of ArrayList is Fail-Safe.
A. **False** B. True

17. All the Collection API implementation classes implement_____.
A. Runnable B. **Serializable**
C. Externalizable D. Comparable

18. When you add any object inside Collection API implementation class, its copy is added.
A. True B. **False**

19. Whenever we create any implementation of set it result into_____.
A. Vector B. None of these C. List **D. Map**

20. In map implementation when hashcode of two keys are same it is called as?
A. Hashing **B. Hash Collision** **C.** Hash Clash D. None of these

21. One of the following allows us to define more than one strategies.
A. Comparator B. None of these C. Enumeration D. Comparable

22. Snapshot of list is created in case of _____.
A. CopyOnWriteArrayList B. Linked List C. Arraylist D. Vector

23. One of the followings is not Thread Safe
A. StringBuffer B. Hashtable C. Vector D. **none of these**

24. Suppose that you would like to create an instance of a new Map that has an iteration order that is the same as the iteration order of an existing instance of a Map. Which concrete implementation of the Map interface should be used for the new instance?
A. TreeMap B. HashMap C. **LinkedHashMap**

25. Which class does not override the equals() and hashCode() methods, inheriting them directly from class Object?
A. java.lang.String B. java.lang.Double
C. **java.lang.StringBuffer** D. java.lang.Character

26. What will happen if you compile/run the folowing lines of code? Vector a = new Vector();
a.addElement(10);
System.out.println(a.elementAt(0)_);
A. Prints 10. B. Prints 11.
C. Compilation error at line 3. D. Prints some garbage.

Q.27 Comparable is a_____

A. interface B. classes C. Both 1 and 2 D.none of the above

Q.28 Arraylist is_____

A. class B. List implementation

C. Both a and b D. None of the above

Q.29 hash code is used by

A. set B. map **C. both a & b** D. None of the above

Q.30 Which of the following data structures implements FILO mechanism

a) Queue b) Hash c) Linked List **d) Stack**

Q.31 Which of the following statements is true?

a) Hashmap is thread-safe while Hashtable is not
b) **Hashmap is thread-safe while HashMap is not**
c) Both are thread-safe
d) Both are not thread-safe

EXCEPTION

1. Given Following code:

```
import java.io.*;   class
sub extends base
{
        void disp()throws IOException
        {
        }
}
class base
{
        void disp()throws Exception
        {
        }
}
public class myclass
{
        public static void main(String args[])
        {       try
                {
                base b=new sub();       b.disp();
                }
                catch(Exception ee)
                {
                        System.out.println(ee);
                }
                System.out.println("done");
        }
}
```

A. warning B. compilation error C. runtime error **D. output "done"**

2. Which statement is false from the following?
   A. we can have try and finally without catch
   B. finally gets executed irrespective whether exception is raised or not
   C. if system.exit is called from within try or catch, finally will not be executed at all **D. none of the above**

3. Class.forName requires which of the following exception to be handled
   A. ClassCastException **B. ClassNotFoundException**
   C. IllegalAccessException D. none of the above

4. Class.newInstance() requires which of the following exception to be handled
   A. IOException B. ClassNotFoundException
   C. IllegalAccessException D. none of the above

5. Imagine there are two exception classes Exception1 and Exception2 derived from the Exception class. Given these two definitions:

```
class First
{
        void test()throws Exception1,Exception1
        {
        }
}
class Second extends First
{
        void test()
        {
        }
}
```

Now define a class "Third" derived from "Second" and override "test ()" method inside it. What exceptions can Third's test() method throw?

A. Exception1 B. Exception2
C. **No checked exceptions** D. it can declare any checked

6. What letters get written to the standard output with the following code?

```
public class MyClass
{
        public static void main(String args[])
        {
                try
                {
                        method();
                }
                catch(Exception ie)
                {
                }
        }
        static void method()
```

```
{                       try
        {
                        wrench();
                        System.out.println("a");

        }
        catch(ArithmeticException ae)
        {
                        System.out.println("b");
        }
        finally
        {
                        System.out.println("c");
        }
                        System.out.println("d");
}
static void wrench()
{
        throw new NullPointerException();
}
}
```

A. A B. b C. **c** D. Compilation error

7. Which statement is false from the following?

A. The exceptions that are checked at compilation-time by the Java Compiler are called
B. 'Checked exception'.
C. The exceptions that are checked by the JVM are called 'unchecked exception D. Both 1 and 2
E. **None of the above**

8. Read the following code below. public interface AQuestion

```
{
  public abstract void someMethod() throws Exception;
}
```

A Class implementing this interface should

A. Necessarily be an abstract class
B. Should have the method public abstract void someMethod();
C. Should have the method public void someMethod() which has to throw an exception which is a subclass of java.lang.Exception.
D. **Should have the method public void someMethod() which need not throw an Exception.**

9. Given: public class Test

```
{
    public static void throwIt()
      {
          throw new Exception();
      }
    public static void main(String[] args)
```

```
{           try
        {
           System.out.println("Hey There");
        }           finally
        {
            System.out.println("in Finally");
        }        } }
```

What will happen when one tries to compile and run above code?

A. Compilation Fails

B. The program will print Hey There, then will print in finally.

C. The program will print Hey There, then will print that an Exception has occurred, and then will print in finally.

D. None of them

10 Given:

```
1.  public class Foo {
2.  public static void main(String[] args) {
3.  try {
4.  return;
5.  } finally {
6.  System.out.println( "Finally" );
7.  } 8. }   9. }
```

What is the result?

A. Finally **B.** Blank C. Null D. None of the above

11. In exception handling mechanism, finally block is always executed, even if no exception occurred in the try block

A. True **B.** False

12. Exceptions can be caught or rethrown to a calling method.

A. True **B.** False

13. Given Following code:

```
import java.io.*;  class base
{
                void disp()throws IOException
                {
                }
}
class sub extends base
{
                void disp()throws Exception
                {
                }
}

public class myclass
{
                public static void main(String args[])
```

```
                    {

                    }
}
```

A. compile error
B. neither compilation nor runtime error
C. no compilation error but exception at runtime.

14. What will happen to the following code?

```
public class Test
{
   public static void aMethod() throws Exception
   {
      try /* Line 5 */
      {
         throw new Exception(); /* Line 7 */
      }
      finally /* Line 9 */
      {
         System.out.print("finally "); /* Line 11 */
      }
   }
   public static void main(String args[])
   {       try
      {
         aMethod();
      }
      catch (Exception e) /* Line 20 */
      {
         System.out.print("exception ");
      }
      System.out.print("finished"); /* Line 24 */
   }   }
```

A: finally
B: exception finished
C: finally exception finished
D: compilation fails

15. Which statement is true,if the following program is run by java test10 ? public class test10

```
{
                    public  static void main(String []args)
                    {
          String []num={"one","two","three","four"};          if(args.length==0)
                                        {
                                                System.out.println("Zero");
                    }
   else                    {
System.out.println(num[args.length]+" arguments");
                                        }
```

```
  }
}
```

A. The program won't run because argument of main is not properly mentioned
B. The program will throw a NullPointerException
C. **The program will display Zero when executed**
D. The program will display 0 arguments when executed

16. following program will not print "==" public class test12

```
{
        Public static void main(String args{})
        {
                String first="abc";
                String second=new String(first);
                If(first==second)
                {
                        System.out.println("==");
                }
        }
}
```

A. **True** B. False

17. Assuming a method contains code which may raise an Exception (but not a RuntimeException), what is the correct way for a method to indicate that it expects the caller to handle that exception:
A. throw Exception **B. throws Exception**
C. new Exception D. Don't need to specify anything

18. What is the result of executing the following code, using the parameters 4 and 0:

```
public void divide(int a, int b)
{     try      {
int c = a / b;
      }
   catch (Exception e)
    {
      System.out.print("Exception ");
    }    finally
  {
     System.out.println("Finally");
  }
```

A. Prints out: Exception Finally B. Prints out: Finally
C. Prints out: Exception D. No output

19. Given public class MyClass

```
{
        public static void main(String args[])
{
        String s1="hello";
        String s2=new String("hello");
        String s3="hello";
```

```
System.out.println(s1==s2);
System.out.println(s1==s3);
System.out.println(s1.equals(s2));
}
}
```

What will be the output ?

A. true, true, true B. true, false, true

C. **false, true, true** D. none of the above

20. specify which of the following is true ?

A. protected members can not be accessed directly in the same package.

B. Protected member can be accessed with super class reference in different package.

C. Private member can be accessed by subclass using super keyword.

D. **Constructors are not inherited.**

21Can you declare method local variable as final and can an abstract class may be final?

A. Yes, yes **B. Yes, no** C. No, yes D. No, no

22. Which of these methods of String class is used to obtain character at specified index?

A. char() B. charOn() C. charat() **D. charAt()**

23. What will happen in the below code snipet: public class MyClass

```
{
        int i;      float f;      double d;
                    boolean bl;
                    public static void main(String args[])
                    {

                                System.out.println("int =  "+i);
                                System.out.println("float = "+f);
                                System.out.println("double = "+d);
                                System.out.println("boolean = "+bl);
                    }
}
```

A. Int=0 float=0.0 double=0.0 boolean=false

B. **Compilation error: cannot make static reference to the non-static field**

C. Int=0 float=0.000 double=0.000 boolean=false

D. Compilation error: variable may not have been initialized

24. What is legal?

A. Try{}catch() B. Try{}catch()finally{}

C. Try{}finally{} D. **All of the above**

25. What will be returned?

Try{return 1;}catch(){return 2;}finally{return 3;}

A. 3 B.2 C.1 D. Compilation error

26. One of the following is unchecked exception

A. IOException B. ClassNotFoundException
C. FileNotFoundException **D. None of the above**

27. Which one is checked exception
A. ClassCastException **B. MalformedURLException** C. ArrayIndexOutOfBoundsException D. None of the above

28. In order to declare exception which keyword is used
A. Throw B. Throws C. Throwing D. None of the Above

29. when an exception happens in the finally block it should be
A. It should be thrown by using throws. **B. We should catch it**
C. Depends on scenario D. None of the above.

30. Checked exceptions are automatically propagated to the caller.
A. True B. **False**

31. Unchecked exceptions are automatically propagated to the caller.
A. True B. False

32. If u want to create checked exception as user defined exception u need to extend
A. RuntimeException B. Throwable **C. Exception** D. Error

33. When u write one try and multiple catch the most specific catch should precede the most generic catch
A. True B. False

34.
```
class exception_handling
 {
public static void main(S1ring argsO)
            {
try
{
System.out.print("Hello" + " " + 1IO) ;
} finally
{
System.out.print("World");
}
}
}
```
A. Hello B. World
C. Compilation Error **D. First Exception then World**

36. Which of the following is not generally recoverable in the program
A. Error B. Exception C. Both a and b D. None of the above.

FILE HANDLING

1. One of the following class provides "seek ()" method

A: FileInputStream B: File **C: RandomAccessFile** D: FileReader

2. Given

File f=new File("abc.txt");
FileInputStream fis=new FileInputStream(f); byte arr[]=new byte[100]; which statement will read content of "abc.txt" into arr.

A: arr=fis.read() B: f.read(arr) C: arr=f.read() **D: fis.read(arr)**

3. Which one is wrong statement?

A: FileInputStream fis=new FileInputStream(new BufferedInputStream("abc.txt"));
B: DataOutputStream dis=new DataOutputStream(new FileOutputStream("xyz.txt"));
C: FileOutputStream fos=new FileOutputStream(new File("aaa.txt"));
D: SequenceInputStream ss=new SequenceInputStream(new FileInputStream("a.txt"),new FileInputStream("b.txt"));

4. Given class base

```
{
        int k;
}
class sub extends base implements Serializable
{
        int j;
}
```

If we try to serialize instance of sub class,
A: sub as well as base state will be serialized
B: NotSerializableException
C: only sub instance will be serialized
D: compiler error "cannot serialized object having non-serializable parent"

5. Classes that do not implement _____interface will not have any of their State serialize or deserialized.

A: List B: SingleThreadModel **C: Serializable** D: Comparable

6. Which one of the following is not from java.io.package

A. **String - correct ans** B. StringReader C. Writer D. File

7. What is the output?

```
public static void main(String[] args) {
        // TODO Auto-generated method stub        int x=0;        int y=10;
            do        {
                y--;        ++x;
        }while(x<5);
        System.out.println(x+"\t"+y);
        }
```

output- 5 5 how does readObject() of ObjectInputStream indicate end of file?

A. returns null B. "" -1
C. **throws java.io.EOFException - correct ans** D. closes automatically

8. What does the following code do?
File f=new File("hello.test");
FileOutputStream fos=new FileOutputStream(f);
A. Create a file "hello.test" if it does not exists in write mode.
B. Open a file named "hello.test" , so that u can write to it and read from it but does not create the file if it is not existing yet.
C. Open a file named "hello.test" , so that u can write to it and read from it.
D. Create an object that you can now use to create and open the file named "hello.test" and write to and read from the file.

9. Given this code: Import java.io.*;

```
Class Write
{
    Public static void main(String args[])
        {
          File f=new File("a.txt");
          FileOutputStream fos=new FileOutputStream(f);
          // write int here inside the file
        }
```

How can u replace the comment at the end of main with code that will write integers from 0 to 9 ? A. DataOutputStream dos=new DataOutputStream(fos);
a. for(int i=0;i<=9;i++)
b. {
i. dos.write(i);
c. }
B. for(int i=0;i<=9;i++)
a. {
i. f.writeInf(i);
b. }

C. for(int i=0;i<=9;i++)
i. {
i. fos.writeInt(i);
ii. }
D. **DataOutputStream dos=new DataOutputStream(fos);**
a. **for(int i=0;i<=9;i++)**
{
dos.writeInt(i);
}

10. What is the permanent effect on the file system of writing data to a new FileWriter("report"), given the file report already exists?
A. The data is appended to the file
B. **The file is replaced with a new file**
C. An exception is raised as the file already exists

D. The data is written to random locations within the file

11. Which one is wrong statement?
A: FileInputStream fis=new FileInputStream("abc.txt");
B: DataOutputStream dis=new DataOutputStream(new FileOutputStream("xyz.txt"));
C: FileOutputStream fos=new FileOutputStream(new File("aaa.txt"));
D: FileOutputStream fos=new FileOutputStream(new ObjectOutputStream("aaa.txt"));

12. Which statement is correct?
A: Externalizable is a base interface of Serializable
B: String class is final hence cannot be serialized
C: When a class implements Serializable and it is deserialized using readObject(), constructor is never invoked.
D: Externalizable is a marker interface.

13. Given

```
class base
{
        int k;
}
class sub implements Serializable
{
base b=new base();
        int j;
}
```

If we try to serialize instance of sub class,
A: sub as well as base state will be serialized
B: NotSerializableException
C: only sub instance will be serialized
D: compiler error " cannot serialized object having non-serializable parent"

14. Which class is not serialized
A: java.lang.Thread B: java.lang.Applet
C: java.lang.Class D: All of the above

15. _____ is a communication path bet'n source and destination
A. File **B. stream** C. directory D. none of the above

16. InputStream and OutputStream are concrete classes
A. True B. **false**

17. if u want to write primitive types u need to use
A. **DataoutputStream** B. FileOutputStream
C. OutputStream D. ObjectOutputStream

18. _____ class allows us to write and read both.
A. FileReaderWriter B. **RandomAccessFile**

C. BufferedWriter D. none of the above

19. Serializable extends Externalizable
A. True B. **false**

20. Serializable is marker interface.
A. True B. false

21. In case of Serializable when u deserialize an object constructor does not get invoked.
A. True B. false

22. While deserialization if serialversionUID does not match we get
A. IllegalClassException B. **InvalidClassException**
C. NullPointerException D. none of the above

23. Which is correct
A. FileOutputStream fos=new FileOutputStream(object to be added); ObjectOutputStream oos=new ObjectOutputStream("filename"); oos.writeObject();

B. FileOutputStream fos=new FileOutputStream("filename");
ObjectOutputStream oos=new ObjectOutputStream(object to be added); oos.writeObject();

C. **FileOutputStream fos=new FileOutputStream("filename"); ObjectOutputStream oos=new ObjectOutputStream(fos); oos.writeObject(object to be added);**

D. none of the above

24. File class is used to create new file.
A. True B. **false**

25. in case of Externalizable when u deserialize an object first readExternal() is called and then constructor is called.
A. True B. **false**

26. In order to serialize inner class, outer class must be Serializable
A. **True** B. false

27. If inner class implements Externalizable we don't get any problem while deserialization A. True B. **false**

28. If static nested class implements Externalizable we don't get any problem while deserialization
A. **True** B. false

29. Java.lang.Object class implements Serializable
A. True B. **false**

30. transient variables make sense I n context
A. inheritance B. Association **C. Serialization** D. None of the above

31. Which of these classes are used by character streams for input and output operations?
A. InputStream **B. Writer** C. ReadStream D. InputOutputStream

32. FileWriter fw =new FileWriter("a.xyz"); in this code, we are using
A. **Text based io** B. binary based 10 C. both a and b D. none of the above.

GENERICS

1. At the time of compilation compiler removes all the information about generics. This is known as A. Generic-removal B. Generic-Erasure C. **Type-Erasure** D.none of the above

2. <P extends Q> here Q can be either class or interface
A. True B. false

3. We can't have generic method in non-generic class
A. True B. **false**

4. Polymorphism applies to base type as well as generic type.
A. True B. **false**

5. Mixing generic and non-generics can be risky
A. True B. false

6. If the base class reference referring to sub class array then there is a possibility of
A. IllegalArrayException B. **ArrayStoreException**
C. NullPointerException D. none of the above

7. In case of <? Extends ……> we can add
A. True B. **false**

8. In case of <? super ……> we can add
A. True B.false

9. List<? Super Thread> mylist=new ArrayList<Object>() will work
A. Yes B. no

10. List <? Super Dog> mylist=new ArrayList<Animal>() mylist.add(new Cat()); will work
A. Yes B. **no**

11. List<?> allows u to add
A. True B. **false**

12. List<Object> allows u to add
A. True B. false

INHERITANCE

1. What is the output of following code.

```
class a
{
    static
    {
            System.out.println(" static a");
    }
}
class b extends a
{
    static
    {
            System.out.println(" static b");
    }
}
class c extends b
{
    static
    {
            System.out.println(" static c");
    }
}
public class myclass
{
    static
    {
        System.out.println(" static  myclass");
    }
    public static void main(String args[])
    {
            new c();
            System.out.println("in main");
    }
}
```

A: in main, static a,static b,static c, static myclass
B: static myclass, static a,static b,static c, in main
C: static myclass, in main ,static a,static b,static c
D: static a,static b,static c, static myclass, in main

2. What will happen to the following code ?

```
class base
{
public final void disp ()
{
System.out.println ("in disp");
```

```
}
}
public class sub extends base
{
public static void main (String argv [] )
{
base b = new base() ;  b.disp
();
}
}
```

A: runtime error
B: compiler error "final method must be inside final class"
C: compiler error "a class having final method can not be inherited"
D: neither compilation nor runtime error

3. what will be the output ? class

```
base
{
    int i;      base()
    {
                add(1);
    }
    void add(int v)
    {                       i+=v;
    }
    void
print()
    {
                System.out.println(i);
    }
}
class sub extends base
{
    sub()
    {
                add(2);
    }
    void add(int v)
    {
                i+=v*2;
    }
}
public class test6
{
    static void disp(base b)
    {
                b.add(8);
                b.print();
```

```
    }
    public  static void main(String args[])
    {
            disp(new sub());
    }
}
```

A: 9 B: 18 **C: 22** D: 21

4. What is the output of following code ? interface emp

```
{
}
public class Trial implements emp
{
    public static void main(String args[])
    {
            Trial t=new Trial();
            if(t instanceof Trial)
            {
                    System.out.println("Trial");
            }
            if(t instanceof emp)
            {
                    System.out.println("emp");
            }
            if(t instanceof Object)
            {
                    System.out.println("Object");
            }
    }
}
```

A: Trial, emp, Object
B: Trial, emp
C: compilation error "can not use instanceof with interface"
D: Trial, Object

5. what is the output of the following code?

```
class a
{
    static
    {
            System.out.println("static a");
    }
}
class b extends a
{
    static
    {
```

```
                System.out.println("static b");
    }
}
class c extends b
{
    static
    {
                System.out.println("static c");
    }
}
public class MyClass
{
    static
    {
                System.out.println("static MyClass");
    }
    public static void main(String args[])
    {
    new
c();
    System.out.println("in main");
    }
}
```

A. in main, static a, static b, static c, static MyClass
B. **static MyClass, static a, static b, static c, in main**
C. static MyClass, in main, static a, static b, static c
D. static a, static b, static c, static MyClass, in main

6. what will happen to the following code? class base

```
{
    public final void disp()
    {
                System.out.println("disp");
    }
}

public class sub extends base
{
    public static void main(String args[])
    {
                base b=new base();                    b.disp();
    }
}
```

A. runtime error
B. compiler error: final method must there in final class
C. compiler error: a class having final method can not be instantiated.
D. **Neither compile time nor runtime error.**

7. Why multiple inheritance is not available in java?

A. It leads to confusion for a Java program

B. The programmer can achieve multiple inheritance by using interface

C. The programmer can achieve multiple inheritance by repeatedly using single inheritance D.All of the above

8. what is the output? class base

```
{
}
class sub1 extends base
{
}
class sub2 extends sub1
{
}
class sub3 extends sub2
{
}
public class test12
{
    public static void main(String args[])
    {
            sub1 s=new sub2();          base b=s;
            if(b instanceof base)
            {
                    System.out.println("base");
            }
            if(b instanceof sub1)
            {
                    System.out.println("sub1");
            }
            if(b instanceof sub2)
            {
                    System.out.println("sub2");
            }
            if(b instanceof sub3)
            {
                    System.out.println("sub3");
            }

            }
    }
```

A. base **B. sub3** C. sub1 D. sub2

9. Given the following code,what can be said about the statement s=(sub)b ? class base

```
{
}
class sub extends base
```

```
{
}
public class test12
{
    public static void main(String args[])
    {
  base b=new base();   sub s=new sub();
                s=(sub)b;
    }
}
```

A. legal at compile time but illegal at runtime

B. illegal at compile time

C. legal at compile and runtime ,but (sub) cast is not needed D. legal at compile and runtime ,but (sub) cast is strictly needed.

10. What will happen when you attempt to compile or run this code? class Base

```
{
public final void amethod ()
{
system.out.println ("amethod");
}
}
public class Fin extends Base
{
public static void main (String argv [] )
{
Base b = new Base() ;  b.amethod
() ;
}
}
```

A. Compile time error indicating that a class with any final methods must be declared final itself

B. Compile time error indicating that you inherit from a class with final methods.

C. Run time error indicating that Base is not defined as final.

D. **Success in compilation and output of "amethod" at run time**

11. class Foo

```
{
    int num;
    Bar comp=new Bar();
}
class Bar
{
    boolean flag;
}
class Baz extends Foo
{
    Bar thing=new Bar();
    double d;
```

```
}
```

A. A Bar is a Baz B. A Foo has a Bar C. A Baz is a Foo D. A Foo is a Baz
E. A Baz has a Bar.

12. What will happen to the following code? interface X

```
{
    static void disp()
    {
            System.out.println("in disp of X");
    }
}

public class Trial implements X
{
    public static void main(String args[])
    {
            Trial t=new Trial();            t.disp();
    }
}
```

A. Compilation error "disp not available with Trial"
B. Compilation error "static method can not be defined inside an interface"
C. Compilation error " Trial class must define disp as it is there inside parent interface" D. Output " in disp of X"

13. Given interface emp //
functional interface

```
{
    String wish(String name);
}
```

Lambda expression in order to use above interface would be:
A. emp ref2=(String name)->{ return "Welcome to our site\t"+name;};
B. **emp ref2=(String name){ return "Welcome to our site\t"+name;};**
C. Both A and B
D. None of the above

14. How restrictive is the default accessibility compared to public, protected and private accessibility? a. Less restrictive than public.
A. More restrictive than public, but less restrictive than protected
B. More restrictive than private
C. **More restrictive than protected, but less restrictive than private**
D. Less restrictive than protected from within a package, and more restrictive than protected from outside a package

15. What will be the output of the following code? public class VerySmart

```
{
public static void main(String[] args)
```

```
{
String message;
System.out.println("message length is : " + message.length() );
}
}
```

A. /0 B. 0 **C. compile time error** D. run time error

16. The programmer must explicitly create the System.in and System.out objects.

A. True **B. False**

17. A method within a class is only accessible by classes that are defined within the same package as the class of the method. How can such a restriction be enforced?

A. Declare the method with the keyword "public"
B. Declare the method with the keyword "protected"
C. Do not declare the method with any modifiers.
D. Declare the method with the keyword "private"
E. Declare the method with the keyword "package"

18. A final class cannot have any abstract methods.

A. True B. False

19. String class is

A. final B. abstract C. static D. transient

20. what is the result of following code ?

```
class base
{
    int i;
    base()
    {
        add(1);
    }
    void add(int v)
    {
        i+=v;
    }
    void print()
    {
        System.out.println(i);
    }
}
class sub extends base
{
    sub()
    {
        System.out.println("in sub def const");
        super.add(2);
    }
    void add(int v)
```

```
    {
            i+=v*2;
    }
}
public class test11
{
    public  static void main(String args[])
    {
            base b;             b=new sub();                b.print();
    }
}
```

A. 4 B. 3 C. Error: super has to be on first line of constructor D. 2

21. What is garbage collection process in java?

A. The operating system periodically deletes all the java files available on the system.

B. Unused package in program is automatically deleted.

C. **When all references to an object are gone, memory used by that object is automatically reclaimed.**

D. The JVM checks the output of any java program and deletes anything that does not make sense.

22. Given the following code, public class Test

```
{
 String str="hello";
 }
    1.      Test t=new Test();
    2.      System.out.println(t.str);
    3.      t=null;
    4.      System.out.println(t.str);
    5.      System.out.println("done"); What will happen to the above code?
```

A: "NullPointerException" at Line 3 **B: "NullPointerException" at Line 4**

C: Compilation error at Line 4 D: Successful out

23. Given the following code, public class Test

```
{
 String str="hello";

}
    6.      Test t=new Test();
    7.      System.out.println(t.str);
    8.      t.str=null;
    9.      t=null;
    10.     System.out.println("done");
```

At which line the object created at 1 will be marked for garbage collection?

A: Line 3 **B: Line 4** C: Can't say exactly when D: both Line3 and Line4

24. What is the output?

```
public class Trial
{
```

```
int num=10;
void change(Trial ref)
{           ref.num=20;
ref=new Trial();
  ref.num=30;          ref=null;
}
public static void main(String args[])
{
 Trial t=new Trial();   t.change(t);
            System.out.println(t.num);
}
}
```

A: 30 **B: 20** C: NullPointerException D: 10

25. class Bar { }

```
class Test
{
  Bar doBar()
  {
    Bar b = new Bar(); /* Line 6 */      return b; /* Line 7 */
  }
  public static void main (String args[])
  {
    Test t = new Test();  /* Line 11 */
    Bar newBar = t.doBar();  /* Line 12 */      System.out.println("newBar");      newBar = new Bar(); /*
Line 14 */
    System.out.println("finishing"); /* Line 15 */
  } }
```

At what point is the Bar object, created on line 6, eligible for garbage collection?

A. after line 12 **B. after line 14**

C. after line 7, when doBar() completes D. after line 15, when main() completes

26. What is the output for the following program?

```
class A
{
   static
   {
            System.out.println("in A static block");
   }
}
public class Trial
{
   A ob=new A();
   public static void main(String args[])
   {
            System.out.println("in main");
   }
   static
```

```
    {
            System.out.println("in Trial static block");
    }
}
```

A: in A's static block, in Trial static block, in main **B: in Trial static block, in main**
C: in A's static block, ,in main ,in Trial static block
D: in Trial static block, in A's static block, in main

27. Given following code, what will happen to it ?

```
String str1="hello";
  String str2="hel";    String str3=str2+"lo";
            if(str1==str3)
            {
                    System.out.println("str1 and str3 are==");
            }
            else
            {
                    System.out.println("str1 and str3 are not ==");
            }

            if(str1.equals(str3))
            {
                    System.out.println("str1 and str3 are equals");
            }
            else
            {
                    System.out.println("str1 and str3 are not equals");
            }
```

A: str1 and str3 are ==, str1 and str3 are equals
B: str1 and str3 are not ==, str1 and str3 are equals
C: str1 and str3 are ==, str1 and str3 are not equals
D: compilation error

28. Java supports

A. single level inheritance
B. multi-level inheritance
C. hierarchical inheritance
D. all of the above

29 Super must be on first line if we want to invoke base class constructor.
A. True
B. False

30. Super need not be on first line if we want to invoke base class method.
A. True
B. False

31 <default> is more accessible than protected.

A. True **B. False**

32. Final keyword can be applied to
A. Instance member B. Class variable C. Local variable **D. All of the above**

33. In java we can apply static modifier for local variable.
A. True **B. False**

34. In order to make a class abstract:
A. Apply abstract keyword to class B. Declare abstract method inside class
C. Both a and b D. None of the above

35. In order to check "is-a" relationship, we use following operator
A. Is-a **B. Instanceof** C. Is_relationship D. None of the above

36. If we try to cast the classes out of hierarchy we get
A. BadCastException B. OutOfHierarchyException
C. ClassCastException D. None of the above

37. At the time of overriding function, if we change the argument :
A. It gives compiler error B. It gives runtime error
C. Compiler automatically removes the argument **D. It becomes overloading.**

38. Will following code work? Class MyClass extends String{}
A. Yes **B. No**

39. Which of the following statements are true?
A. An abstract class may not have any final methods.
B. **A final class may not have any abstract methods.**
C. Every class must have a main method.
D. The mandatory elements in a file are: package, import and class.
E. A Java identifier must begin with a letter, $, ! or _.

40. super call should always be

A. main function B.in the super class **C. in the subclass**. D.None of the above

41. extends keyword can be used with
A. Interface B. class **C. both** D. None of the above

42. final keyword for class in java means
A. no overriding B. no overloading C. Both a & b D.none of the above

43. interfaces in java is for
A. contract B. abstraction **C. both a and b** D. None of the above

45. The job that is done by the thread is decided by

A. run method B. start method C. main method D. None of the above

46. overriding uses
A. variables B. functions C. classes **D. None of the above**

47. class
A
{
int i;
void display()
{
System.out.println(i);
}
}
class B extends A { int j;
void display() { System.out.println(j));
}
}
class inheritance_demo {
public static void main(Stri111g argsO)
{
B obj = new B();
obj.i=1; obj.j=2;
obj.display();
}
}
Output of this program is
A.O B. 1 **C. 2** D. Compilation Error

48. interface Z extends A, here A is
A. class B. function C. **interface** D. none of the above.

49. How can we ensure that a class will not be inherited from?
A. Delare it as constant **B. Declare it as final**
C. Declare it as static D. None of the above

50. superclass ref =new SubclassObject(),cannot access typically
A. Non final functions of super class B. Final functions of super class
C. Exclusive functions of sub class D. None of the above.

Q.51 When a program class implements an interface,it must provide behavio
A.Two methods defined in that interface. B. Only certain methods in an interface
C. Any methods in a class. **D. All methods defined in that interface.**

52. Which modifier would be used to limit the methods visibility to only the ot the current oackaae and all subclasses.

A. public B. private C. protected **D. default**

53. The variables in an interface can have which modifiers?
A. Public B. Static C. Final **D. All of the above**

54. To compare whether two references point to the same object we use
A. == operator B. equals function **C. we can use both** D. none of the above.

55. non final functions have to be
A. overridden **B. may be overridden** C. ABoth a and b D. None of the above

56. What is the output of this program?

```
class A
{
        Public int i;
        Private int j;
}
Class B extends A
{
        Void display()
        {
                super.j = super.i + 1;
                System.out.println(supper.i + " " + supper.j);
        }
}
        class inheritance
        {
                public static void main (String args[])
                {
                  B obj = new B();
            obj.i=1;
obj.j=2;
                        obj.display();
                }
        }
```

A. 22 B. 33 C. Runtime Error **D. Compilation Error**

57. A class can be declared as_____ if you do not want the class to be subclassed. Using the _____keyword we can abstract a class interface from its implementation
A. protected, interface **B. final, interface** C. public, friend D. final, protected

58. Select the correct statement
A. Method overloading is called compiled time polymorphism
B. Method overloading is called runtime polymorphism
C. only [B] is correct
D. Both [A] and [B] are correct

59. What is the output of the below program?

```
public class A
{
public void foo()
{
System.out.println("foo");
}
public void foo(int a)
{
System.out.println("foo(int)");
}
}
public class B extends A
{
public void foo()
{
foo(5);
}
public void foo(int a)
{
System.out.println("fooB(int)");
}
}
public class test
{
Public static void main(String[] args)
{
A a = new B() ; a.foo()
;
}
}
```

A. Program will not compile **B. fooB(int)** C. foo(int) D. foo

60. What is the output of the below program ?

```
Public class A
{
    Public int a1 = 5;
    Public int a2          = 6;
    Public static int a3 = 7;
    Public static int a4 = 8;
    Public void foo()
    {
            System.out.println(a1);
    }
    Public static void foo(int a)
    {
            System.out.println(a2);
    }
```

```
}
Public class B extend A
{
    Public void foo()
    {
            System.out.println(a3);
            Foo(5);
            System.out.println(a2);
    }
```

A. 5
B. **7**
   6
   8
C. 6
D. Program will not compile

61. What is the output of the below program?

```
Public class A
{
    Public int a1 = 5;
    Public int a2 = 6;
    Public static in b1 = 7;
    Public static int b2 = 8;
    Public void foo()
    {
            System.out.println(getClass().getName());
    }
    Public void foo(int a)
    {
            System.out.println(getClass().getName());
    }
}
Public class B extend A
{
    Public void foo(int a, int b)
    {
            foo(a);
            System.out.println(getClass().getName());
    }
}
Public class Test
{
    Public static void main(String[] args)
    {
            A a= newB();
    a.foo();
    }
```

```
}
```

A. program will not compile B. A **C. B** D. A B

62. Which of the following statements are true?
i. An instance of an abstract cannot be created ii .An abstract class must have at least one abstract method iii. An abstract class cannot implement an interface

A. i B. i , ii C. i , ii , iii D. ii

63. What will be the output of the following program?

```
Public class A
{
    Public A()
    {
    this(5);
            System.out.println("A()");
    }
    Public A(int a)
    {
            System.out.println("A(int)");
    }
}
Public class B
{
    Pulic B()
    {
            System.out.println("B()");
            Super();
    }
}
Public class Test
{
    Public static void main(String[] args)
    {
            A a1 = new B();
    }
}
```

A. program will not compile B. B() A(int) A() C. B() D. B() A() A(int)

JAVA FX

1. In JavaFX following class is acting as a container for all the contents

A. Scene B. Stage C. LayoutPane D.None of the above

2. In order to start every JavaFX application you must invoke following method

A. Init() B. Start() **C. Launch()** D. None of the above

MULTITHREADING

1. One of the following method is not executed by the programmer while writing multithreaded applications.

A: start B: sleep C: join **D: run**

2. Given public class Trial extends Thread

```
{
    public void run()throws NullPointerException
    {
            System.out.println("hello");
    }
    public static void main(String args[])
    {
            new Trial().start();            System.out.println("done");
    }
}
```

A: NullPointerException during runtime
B: Compilation error "overridden method does not throw NullPointerException"
C: output "done" "hello"
D: it will print "done" and then throw "NullPointerException"

3. Which of the following is the wrong statement

A: you cannot notify a particular thread
B: synchronized keyword can be applied to static methods
C: wait,notify methods can be called only from synchronized methods or block **D: InterruptedException is unchecked exception.**

4. The_____ interface should be implemented by any class whose instances are intended to be executed by a thread.

A: Serializable B: Comparable C: Collection **D: Runnable**

5. Consider the following: class X implements Runnable

```
{
public static void main(String args[])
{
/* Missing code? */
}
public void run() { }
}
```

Which of the following lines of code is suitable to start a thread?

A: Thread t= new Thread(X); B: Thread t= new Thread(X); t.start();
C: X run = new X(); Thread t= new Thread(run); t.start(); D: Thread t= new Thread(); x.run();

6. Which of the following statements is true?

A: A static method cannot be synchronized
B: Non-synchronized method can become synchronized if it's being called from a synchronized method
C: When a thread call wait() from a synchronized method, it releases the lock
D: Primitive variables can be protected from concurrent access using synchronized block.

7. Given

```
public class TestOne {
public static void main (String[] args) {
Thread.sleep(3000);
System.out.println("sleep");
    }
    }
```

A: No error, prints sleep **B: Compilation error**
C: Runtime Error D: No error & no output

8. Which of the following are methods of the Runnable interface?
A: run B: start C: yield D: stop

9. While using Thread, which is incorrect
A. **u invoke run()** B. u invoke start()
C. u implement Runnable D. u extend Thread

10. Which type of instanceof does targetObject have to pass for this to be legal while using Thread t=new Thread(targetObject);
A. targetObject instanceof Thread B. targetObject instanceof Applet
C. targetObject instanceof Object **D. targetObject instanceof Runnable**

11. _____ are utilized to control the access to an object especially in multithreaded programming?
A. Asynchronized methods B. serialized methods
C. synchronized methods D. both a and c

12. _____ means each method in multithreaded environment doesn't access data by multiple threads at the same time.
A. Thread detach B. thread isolation **C. thread safety** D. thread lock

13. Which of the following starts the default thread available in java program?
A. System class **B. main method** C. static keyword D. none of these
14. Which two can be used to create a new Thread?
A. Extend java.lang.Thread and override the run method.
B. Extend java.lang.Runnable and override the start method.
C. Implement java.lang.thread and implement the run method.
D. Implement java.lang.Runnable and implement the run method.

15. What is the use of the synchronized keyword?
A. Allows two process to run in parallel but to communicate with each other
B. **Ensures only one thread at a time may access a method or object**

C. Ensures that two or more processes will start and end at the same time D. Ensures that two or more Threads will start and end at the same time

16. What will happen when you attempt to compile and run the following code?

```
public class Bground extends Thread
{
  public static void main(String argv[])
    {
       Bground b = new Bground(); b.run();
     }
  public void start()
    {
        for (int i = 0; i<10; i++)
         {
           System.out.println("Value of i = " + i);
         }
    }
}
```

A. A compile time error indicating that no run method is defined for the Thread class
B. A run time error indicating that no run method is defined for the Thread class
C. Clean compile and at run time the values 0 to 9 are printed out
D. **Clean compile but no output at runtime**

17. Given the following,

```
1. class MyThread extends Thread {
2.
3. public static void main(String [] args) {
4. MyThread t = new MyThread();
5. t.start();
6. System.out.print("one. ");  7. t.start();
8. System.out.print("two. ");
9. }
10.
11.  public void run() {
12.  System.out.print("Thread ");
13.  }
14.  }
```

What is the result of this code?

A. Compilation fails
B. **An exception occurs at runtime. java.lang.IllegalThreadStateException**
C. Thread one. Thread two.
D. The output cannot be determined

18. What is the o/p of the following program?

```
1. class MyThread extends Thread {
2.
3.  public static void main(String [] args) {
4.  MyThread t = new MyThread();
```

```
5.  Thread x = new Thread(t);  6. x.start(); 7. }
8.
9.          public void run() {
10.         for(int i=0;i<3;++i) {
11.         System.out.print(i + "..");
12.         } 13. }
14. }
```

A. Compilation fails. B. 1..2..3.. C. 0..1..2..3.. **D.0..1..2..**

19. In case of class lock, non-static synchronized methods come into picture.

A. False B. true

20. Sleep releases the lock whereas wait does not.

A. True **B. False**

21. What is the effect of issuing a wait () method on an object

A. If a notify() method has already been sent to that object then it has no effect

B. **The object issuing the call to wait() will halt until another object sends a notify() or notifyAll() method**

C. An exception will be raised

D. The object issuing the call to wait() will be automatically synchronized with any other objects using the receiving object.

22. One of the following method has to be invoked by the programmer in order to bring thread from born to runnable state.

A: start B: sleep C: join D: run

23. Which of the following is the correct statement

A: you can not notify a particular thread

B: synchronized keyword can be applied to static methods

C: wait,notify methods can be called only from synchronized methods or block **D: all of the above.**

24. Select the correct statement:

A. in case of intrinsic lock, when exception is raised in a synchronized code, lock is automatically released.

B. in case of Reentrant lock, when exception is raised lock is automatically released.

C. Both A and B.

D. None of these.

25. Threads are lightweight as compare to processes

A. True B. false

26. The method used to register thread with JVM scheduler

A. urn B. register **C. start** D. none of the above

27. By default the priority of thread is

A. Minimum B. maximum **C. normal** D. none of the above

28. Sleep releases the lock wait does not
A. True **B. false**

29. One of the following methods programmer never invokes in case of multi-threading application
A. Run B. start C. wait D. notify

30. We can invoke wait, notify or notify all from non-synchronized methods
A. True **B. false**

31. What will happen?

```
public class MyThread extends Thread
{
        @Override
        public void start()
        {
        }
        public static void main(String args[])
        {
        MyThread m1=new MyThread();        m1.run();
        }
        }
```

A. Compile time error B. Exception during runtime
C. No error no output D. Program will behave differently on different platforms

32. Wait, notify and notifyAll methods are
A. Abstract B. static **C. final** D. none of the above

33. All the blocking methods i.e. sleep, wait and join can throw
A. IllegalMonitorStateException **B. InterruptedException**
C. BlockingException D. none of the above

34.What will happen?

```
class MyTarget implements Runnable
{
        public void run()
        {
                System.out.println("MyTarget run");
        }
}
public class MyApp
{
        public static void main(String args[])
        {
        MyTarget m=new MyTarget();        Thread t1=new Thread();
    t1.start();
```

```
    }
}
```

A. Output "MyTarget run" **B. No output**
C. Compilation error D. IllegalMonitorException during runtime

35. What will happen?

```
class MyTarget implements Runnable
{
        public void run()
        {
                System.out.println("MyTarget run");
        }
}
public class MyApp
{
        public static void main(String args[])
        {
                MyTarget m=new MyTarget();
        Thread t1=new Thread();
                t1.start(m);
    }
}
```

A. Output "MyTarget run" B. No output
C. Compilation error D. IllegalMonitorException during runtime

36. What will happen?

```
class MyTarget implements Runnable
{
        public void run()
        {
                System.out.println("MyTarget run");
        }
}
public class MyApp
{
        public static void main(String args[])
        {
  MyTarget m=new MyTarget();   Thread t1=new Thread(m);   t1.start();
    }
}
```

A. Output "MyTarget run" B. No output
C. Compilation error D. IllegalMonitorException during runtime

37. A class which contains non-static synchronized methods or blocks is called as_____
A. Singleton B. Synchronized **C. Thread-Safe** D. none of the above

38. _____ method makes caller thread wait till this thread die.
A. Wait B. sleep C. yield **D. join**

39. The job that is done by the thread is decided by

A. run method B.start method C.main method D.None of the above

40. in a function, the code
Thread.Sleep(1000); is showing a compilation error, because of Interrupted Exception, not being handled, that means Interrupted Exception is

A. Runtime Exception **B. Non Runtime Exception**
C. Could be a or b D. None of the above.

41. class A extends
Thread
{
private int i; public
void run()
{ i= 1;
}
public static void main(String[] args)
{
A a = new A(); a.start();
System.out.print(a.i);
} }

What are the possible results of attempting to compile and run the program

A. Prints nothing B. Prints: 0 C. Prints: 1 **D. Cant say.**

39.class multithreaded_progr.aming
{
public static void main(String argsO)
{
Thread t = Thread.currentThread(); System.out.println(t);
}
}

This will call the toString method of

A. Thread class B. Object class C. String class D. none of the above

OOPS

1. What is the output?

```
public class Trial
{
    int num=10;
    void change(Trial ref)
    {
    ref.num=20;
            ref=null;
    }
```

```
    public static void main(String args[])
    {
            Trial t=new Trial();            t.change(t);
            System.out.println(t.num);
    }
}
```

A: 20 B: 10 C: NullPointerException D: None of the above

2. Which of the following modifiers can be applied to Top Level classes?
A: public B: default C: protected **D: both A and B**

3. Which is true about an anonymous inner class?
A. It can extend exactly one class and implement exactly one interface.
B. It can extend exactly one class and can implement multiple interfaces.
C. **It can extend exactly one class or implement exactly one interface.**
D. It can implement multiple interfaces regardless of whether it also extends a class.

4. Local inner class cannot access
A: outer class member
B: its own static member
C: local members of the method in which it is defined
D: static member of outer class

5. Given public static void main(String args[])

```
    {
            Integer i;              if(i==65)
            {
                    System.out.println("65");
            }
            else if(i==0)
            {
                    System.out.println("0");
            }
            else
            {
                    System.out.println("garbage");
}
    }
```

A: output "0" B: NullPointerException **C: Compilation error** D: output "garbage"

6. Given public class Trial {static Double d;
public static void main(String args[])

```
    {
            if(d==0)
            {
                    System.out.println("0");
            }
            else
```

```
            {
                        System.out.println("garbage");
            }
    }
}
```

A: it will fail at runtime B: output 0
C: output garbage D: compiletime error

7. Which statement is wrong?
A: Externalizable is child of Serializable
B: String class is final hence cannot be serialized
C: When a class implements Serializable and it is deserialized using readObject(), constructor is never invoked.
D: all the wrapper classes they implement Serializable

8. Finalize method is a method of the class
A: String B: Exception **C: Object** D: None of the above

9. Which of the following can be referenced by this variable?
A: The instance variables of a class only
B: The methods of a class only
C: The instance variables and methods of a class
D: The class variable

10. Which statement is true about a static nested class?
A: You must have a reference to an instance of the enclosing class in order to instantiate it.
B: It does not have access to non-static members of the enclosing class.
C: its variables and methods must be static.
D: must extend the enclosing class.

11. Which of the following methods cause the string object referenced by s to be changed?
A: s.concat() B: s.touppercase() C: s.replace() **D: None of the above**

12. Given

```
{
public static void rnain(String [] args)
{
PassA p = new PassA(); p.start();
}

void start()
{
long [] a1 = {3,4,5}; long [] a2 = fix(a1);
System.out.print(a1 [0] + a1 [1] + a1 [2] +  " ");
System.out.println(a2[0] + a2[1] +  a2[2]);
}
long [] fix(long [] a3)
{
```

```
a3[1] = 7'; return a3;
}
}
```

A: 1 2 1 5 B: 1 5 1 5 C: 3 4 5 3 7 5 **D: 3 7 5 3 7 5**

13. What is the result of the following code? import java.util.*; enum

```
Animals
{
 DOG("woof"), CAT("meow"), FISH("burble");
 String sound;
Animals(String s) { sound = s; }
}
public class test11 { static Animals a; public static void main(String [] args) {
System.out.println(a.DOG.sound + " " +  a.FISH.sound);
}
}
```

A: Multiple compilation errors
B: woof burble
C: Compilation fails due to an error on line 3

14. Inner class gets access to
A: outer class variables
B: outer class variables only if we created outer class object in inner class.
C: inner class variables only D: none of the above.

15. Which of the following is not a wrapper class?
A: String B: Integer C: Boolean D: Character

16. What is the output?

```
class A
{
    int i,j;
    A()
    {
            i=1;j=2;
    }
}
public class Abc {
    public static void main(String[] args) {
            // TODO Auto-generated method stub
            A obj1=new A();
            A obj2=new A();
            System.out.println(obj1.equals(obj2));
    }
}
```

A. true **B. false** C. compiler error D. runtime error

17. Which of the following is not abstract?
A. Thread B. Collection C. AbstractList D. List

18. To provide access to members of the class to another class in different package which access specifier is used?
A. **Public** B. protected C. private D. no modifier

19. Which of these methods is rounding function of Math class?
A. max() B. min() **C. abs()** D. all of the above

20. In java System.out is an object of type _____
A. InputStream **B. PrintStream** C. OutputStream D. BufferedInputStream

21. Which of the following statement is supported by an Anonymous inner class supports?
A. It can extend exactly one class and implement exactly one interface
B. It can extend exactly one class and can implement multiple interfaces
C. **It can extend exactly one class or implement exactly one interface**
D. It can implement multiple interfaces regardless of whether it also extends a class.

22. Which string instance method would return true when invoked liked this: a.method(b) where a="BUTTERfly" and b="butterFLY"
a) equalsIgnoreCase() b) toUpperCase() c) toLowerCase() d) equals()

23. Which of the following is an ability of Reflection API in java?
A. Determining the state of an object B. Determining object validity
C. Determining duplicate classes **D. Determination of the class of an object**

24. What is the difference between this() and super() ?
A. super() constructor is invoked within a method of a class while this() constructor is used within the constructor of the sub class.
B. this() constructor is invoked outside a method of a class while super() constructor is invoked within the constructor of the sub class.
C. this() constructor is invoked within a method of a class while super() constructor is invoked outside the constructor of the sub class.
D. **this() constructor is invoked within a constructor of a class while super() constructor is used within the constructor of the sub class.**

25. What is the output of the following? public class MyClass

```
{
    public static void main(String args[])
    {
    StringBuffer sb1=new StringBuffer("Anurag");
    StringBuffer sb2=new StringBuffer("Anurag");
    String ss1="Anurag";

    System.out.println(sb1==sb2);
    System.out.println(sb1.equals(sb2));
    System.out.println(sb1.equals(ss1));
```

```
    System.out.println("Poddar".substring(3));
    }
}
```

A. False , true , true, dar
B. False, true, false, ddar
C. Compiler error
D. false,false, false , dar

26. Given following code, what will happen to the output? public class MyClass

```
{
    public static void main(String args[])
    {
     String str1="hello";
     String str2="hel";
     String str3=str2+"lo";

     if(str1==str3)
     {

==");          System.out.println("str1 and str3 are
     }
     else
     {

not ==");    System.out.println("str1 and str3 are

}
     if(str1.equals(str3))
     {


equals");    System.out.println("str1 and str3 are
     }
     else
     {
                System.out.println("str1 and str3 are

not equals");
                }
    }
}
```

a) str1 and str3 are ==
str1 and str3 are equals

b) **str1 and str3 are not ==**
str1 and str3 are equals

c) str1 and str3 are ==
str1 and str3 are not equals

d) compilation error

27. Select a wrong statement about native method.
A. Native method can be static **B. Native method can be abstract**
C. Native method can be non-static D. Native method can be synchronized

28. Constructor is the class that does not provide information about, and access to, a single constructor of a class.
A. True B. **False**

29. A class cannot be both abstract and final..
A. **True** B.False

30. String s1="hello"; String s2="hello"; which one will return true
A. s1==s2 B. s1.equals(s2) **C. both a and b**

32. What is the correct ordering for the import, class and package declaration when found in a single file?
A. package, import, class B. class, import, package
C. import, package, class D. package, class, import

33. When native method resolution fails we get
A. NativeResolutionFailedException B. NullPointerException
C. UnsatisfiedLinkError D. None of these

34. Select the correct statement about Functional Interface. A. It should not contain default or static methods
B. It should contain only one abstract method.
C. It should contain more than one abstract methods.
D. None of these.

35. Which operation is allowed on String class
A. + B. - C. & D. &&

36. Using reflection u can
A. Access private fields B. Access private methods **C. Both a and b** D. None

37. JRE contains
A. Jvm B. jars C. dlls **D. all of the above**

38. Main() function is invoked by
A. Programmer B. class_loader **C. jvm** D. none of the above

39.. Address of next executing instruction is stored inside
A. method_area B. stack C. heap **D. PC_Register**

40. Method area stores information about
A. Class_bytecode B. static_variables C. method_names **D. all of the above**

41. In java objects are created on
A. Stack B. **heap** C. both A & B D.none of the above

42. . Which of the following statements is true?
A. Main is public B. Main is static C. Main accepts String[] **D. All of the above**

43. According to the new version of java, along with byte,short,int ,char following type is also allowed
A. Double B. float **C. String** D. none of the above

44. By-default value for the Reference type is:
A. false B. 0 **C. null** D.none of these

45. In java by default member functions are
A. static **B. virtual** C. final D.all of the above

46. Just before object gets garbage collected following method is called
A. **finalize()** B. gc() C. main() D. none of the above

47. In java the rule is
A. member variable must be initialized before use **B. local variable must be initialized before use**
C. both a and b D. none of these

48. What will happen if static modifier is removed from the signature of the main method?
A. Compilation Error.
B. **RunTime Error: NoSuchMethodError.**
C. Program will compile and run without any output.
D. Program will compile and run to show the required output.

49. Under what conditions is an object's finalize() method invoked by the garbage collector? **A. When it detects that the object has become unreachable.**
B. As soon as object is set as null.
C. At fixed intervalm it checks for null value.
D. None of the above.

50. Can constructor be inherited?
A. True **B. False**

51. Under what conditions is an object's finalize() method invoked by the garbage collector?
A. Just before object gets garbage collected. B. As soon as object is set as null.
C. At fixed intervalm it checks for null value. D. None of the above.

52. What is the output?
public class test10
{

```
    static void call(int x)
    {                       x+=2;
    }
    public  static void main(String args[])
    {
            int num=0;
    call(num++);
            System.out.println(num);
    }
}
```

A. 1 B. 2 C. 3 D. 0

53. Which of the following is the correct syntax for suggesting the JVM performs garbage collection.
A. System.free (); B. System.setGarbageCollection () ;
C. System.out.get () ; **D. System.gc ();**

54. Which of the following is not primitive data type?
A. int B. Boolean **C.String** D. float

55. Static member scope is _____
A. **They are created when the class is loaded at runtime.**
B. They are created when main get called.
C. They are created when class object get created.
D. They are created when class get modified.

56 What will be the result of attempting to compile and run the following code? public class test3

```
{
    static int a;     int b;
    public test3()
            {
            int c;          c=a;          a++;          b+=c;
            }
            public static void main(String args[])
            {
                    new test3();
            }
}
```

Select the one correct answer
A. The code will fail to compile since the constructor is trying to access static members
B. The code will fail to compile since the constructor is trying to use static field "a " before it has been initialized.
C. The code will fail to compile since the constructor is trying to use static field "b " before it has been initialized.

D. The code will fail to compile since the constructor is trying to use static field "c " before it has been initialized.
E. **The code will compile and run without any problems.**

57. What will happen if you compile/ run the following code? public
class Q 11
{
static String str1»= "main method with String[] args";
static String str2 = "main method with int[] args";
public static void main(String[] args) {
System.out.println(str1); .
}
public static void main(int[] args)
{
System.out.println(str2);
} }
A. Duplicate method main(), compilation error at line 6.
B. Duplicate method main(), compilation error at line 11.
C. **Prints "main method with main String[] args".**
D. Prints "main method with main int[] args".

58. What is the output of the following code?
class Test
{
Test(int 1')
{
System.outfprintln("Test(" +i +")");
}
}
public class Q12
{
static Test t1 = new Test(1);
Test t2 = new Test(2); static
Test t3 = new Test(3);
public static void main(String[] args)
{
Q12 Q = new Q12();
}
}
A. Test(1)
Test(2)
Test(3)
B. Test(3)
Test(2)
Test(1)
C. Test(2)
Test(1)
Test(3)

D. **Test(1) Test(3)**
Test(2)

59. What is the output of the following code?
String str = "Welcome"; si;r.concat(" to Java!");
System.out.println(str);
A. Strings are immutable, compilation error at line 3.
B. Strings are immutable, runtime exception at line 3.
C. **Prints "Welcome".**
D. Prints "Welcome to Java!".

60. What is the output of the following code? class MyClass "
{
static int maxElements; MyClass(int maxElements)
{
this.maxElements = maxElements;
}
}
public class Q19
{
public static void main(String[] args)
{
MyClass a = new MyClass(100); MyClass b = new MyClass(100);
if(a.equals(—)
System.out.println("ObJects have tne same values ;, else
'
System.out.println("Objects have different values");
}
A. Compiles error at line 20 equals () method was not defined. B. Compiles fine,runtime exception at line 20
C. Print "object have the same values".
D. Print "object have the different values";

61. What will happen if you compilel run the following code?
public class Q21
{
int maxElements;
void Q21()
{
maxElements = 100; '
System.out. println(maxElements);
}
Q21 (int i)
{ .

```
maxElements = i;
System.out.println(maxElements);
}
public static void main(String[] args)
{ Q21 a = new Q21();
Q21 b = new Q21(999);
}
}
```

A. Prints 100 and 999.
B. Prints 999 and 100.
C. Compilation error at line 3, variable maxElements was not initialized.
D. **Compilation error while calling parameterized constructor**

62. What will happen if you invoke the following method? public void check()

```
{
System.out.println(Math.min(-0.0,+0.0));
System.out.println(Math.max(-0.0,+0.0));
System.out.println(Math.min(-0.0,+0.0) == Math.max(0.0,+0.0));
}
```

A. prints -0.0, +0.0 and false.
B. prints -0.0, +0.0 and true.
C. prints 0.0, 0.0 and false
D. prints 0.0, 0.0 and true

63. What will be the output of the followingicode?

```
1. String s1 = "Java2";
2. String s2 = "Java2";
3. if (s1 == s2)
4. System.out.println("We are twins");
5. else
6. System.out.println("We are not twins“);
```

A. We are twins
B. We are not twins
C. The program will not compile.
D. The program will compile, but will produce a run-time error.

64. In the following code, which is the earliest statement, where the object originally held in e, may be garbage collected: public class Test { public static void main (String'a"Fg§[]){ Employee e =_new Employee("Bob", 48); e.calculatePay();
System.out.println(e.printDetails()); _ e
= null;
e = new Employee("Denise", 36);

```
e.calculatePay();
System.out.println(e.printDetails());
}
}
```

A. Line 7 **B. Line 8** C. Line 10 D. Line 11

65. non static variables are defined in
A. functions **B. classes** C. both 1 and2 D. none of the above.

66. String objects are
A. mutable **B. immutable** C. all the above D. None of the above

67. toString function is a non final method of
A. keyword B. method of String class
C. method of Object class D. None of the above

68. converting primitives to objects is called as
A. Conversion mechanisms **B. Boxing** C. Object Conversion D. none of the above

69. if we make constructors as static functions
A. compile time error B. runtime error C. coding error D. None of the above

70. non static variables are for
A. objects B. functions C. both 1 and 2 D. none of the above

71. class

```
A
{
int I;
        public void m1()
        {
        System.out.println("value of i is" + i);
        }    }
public class Code1
 {
public static void main(StringO args) {
        A obj =new A(); A obj1 =new A(}; obj.I =3;
        obj1. i=4;
        System.out.prlntln{obj1.i +·" + obj.I);
}
```

this program will print

A. 3,4 **B. 4,3** C. compilation error D. runtime error.

72.
```
class A
{
        public void m1()
        {
        System.out.println("1");
        }
        public static void m2()
         {
         m1(); System.out.prinUn("2");
        }
}
```
when we call m2 function,here output will be

A. 1, 2 B. 2, 1 C. runtime error **D. compile time error**

74. What is the output of following println statement
```
String str1 = "Hellow";
   System.out.println(str1.indexof('t'));
```
A. 0 B. can't be predicted **C. -1** D. 5

75. What could be output of the following fragment of code?
```
   public class Test
   {
            Public static void main (String args[])
            {
                    string x = "hellow";
           int y = 9;
                    System.out.println(x += y);
            }
   }
```
A. throws an exception as String and int are not compatible b) hello9

c) Compilation error

d) None of these

76. What will be the output of the following fragment of code?
```
   public class Test
   {
            public static void main(String [] args)
            {
                    String s1 = "java";
                    String s2 = "java";
                    System.out.println(s1.equals(s2));
                    System.out.println(s1 == s2);
            }
```

```
}
```

A. false true B. false false **C. true false** D. true true

77. Determine output

```
public class Test
{
        public static void main(String args[])
        {
                String str = null;
                if ( str.length() = = 0)
                {
                        System.out.print("1");
                } else if (str == null)
                { System.out.print("2");
                } else {
                        System.out.print("3");

                }
        }
}
```

A. compilation fails B. "1" is printed C. "2" is printed
D. "3" is printed **E. An exception is thrown at runtime**

78. What could be output of the following fragment of code?

```
public class Test
{
        Public static void main (String args[])
        {
                string x = "hellow";
        int y = 9;
                System.out.println(x += y);
        }
}
```

A. throws an exception as String and int are not compatible
B. **hello9**
C. Compilation error
D. None of these

79. class base

```
{
protected:
int a,b;
public:

void setab(int n, int m) (a=n; b=m;)
};
class derived zprotected vase
```

```
{ int c; public: void
setc(int n) {c=n;}
};
```

referring to the sample code above, how can you access the int member "a" in class derived? A. using member functions of base only.

B. only by using friend functions.

C. using member functions of derived only.

D. **by using member functions of derived and base**

E. by using any function.

80. Study the below program

```
Public class Singleton
{
    Public static final Singleton instance = new Singleton();
    Public Singleton()
    {
    }
    Public static Singleton getInstance()
    {
            return instance ;
    }
    Public void foo()
    {
    }
}
Public class Test
{
    Public static void main(String[] args)
    {
            Singleton a = new Singleton();
            a.foo();
            Singleton b = Singleton.getInstance();
            b.foo();
    }
}
```

Which of the numbered lines is a problem ?

A. 1 B. 3 C. Both D. None

81. If an instance of class A is created in what in what order will the numbered lines be hit public class A

```
{
1:  public int a = 1;
    Public A()
{
2:  a = 2;
}
{
3:  a =3;
```

```
}
}
```

A. Class will not compile **B. 1 3 2** C. 2 1 3 D. 2 1

82. How many times will be the line numbered as 1 be hit ?

```
Public class A
{
    Public static int a =1;
    Public A()
    {
            a = 2;
    }
    Static
    {
            a = 3;
    }
}
Public class Test
{
    Public static void main(String[] args)
    {
            A a1 = null;
            A a2 = new A();
    }
}
```

A. Program will not compile **B. 1** C. Never D. 4

83. What is the super class of integer ?

A. Object B. Numeric C. Number D. Short

84. What is the name of the concept by which I can assign an int directly to an Integer ?

A. Casting

B. Auto Assignment **C. Auto boxing**

D. It is not possible. Primitive type cannot be assigned to objects

85. Compiler which converts bytecode to native code is

A. Jit_compiler B. javac_compiler C. byte_compiler D. none of the above

86.Data types in java are

A. Primitive_type B. reference_type **C. both a and b** D. none of hese

87. What is the correct order?

A. Linking_loading_initializing **B. loading_linking_initializiing** C. initializing_loading_linking D.loading_initializing_linking

88. Java does not support

A. pointers B. friend_keyword

C. multiple_inheritance **D. all of the above**

SOCKET PROGRAMMING

1. Which of the following class allows Tcp Server to wait for client on a particular port?
A: InetAddress **B: ServerSocket** C: Socket D: none of the above

2. One of the following port range is valid for Network programming in java
A: 1 to 65535 B: 1023 to 65535 **C: 1024 to 65535** D: 0 to 1023

3. Which one is used to send packet over the network in case of UDP?
A: DatagramPacket B: Socket C: DatagramServer **D: DatagramSocket**

4. Which of the following is Application level protocol?
A: FTP B: HTTP C: JRMP **D: all of the above**

5. A _____ is an endpoint for communication between two machines.
A. ServerSocket **B. Socket** C. DatagramSocket D. DatagramPacket

6. Which of the following class allows UDP Server to wait for client on a particular port?
A: InetAddress **B: DatagramSocket**
C: DatagramPacket D: none of the above

7. One of the following class is used to represent IP address of a machine.
A: IPAddress **B: InetAddress** C: InternetAddress D: InternetPacketAddress

8. Which method is used to wait for client to get connected in TCP? **A: accept**
B: receive
C: wait
D: socketWait

9. Which of the following is Application level protocol?
A: TCP **B: HTTP** C: UDP D: all of the above

10. The class which is used to send the packet in case of UDP is
A. Socket B. UDPSocket C. UserDatagramPacket **D. UserDatagramSocket**

11. The class which represents IP address of machine is
A. InternetAddress
B. IPAddress
C. InetAddress
D. none of the above

12. Which is Application layer
A. HTTP
B. FTP
C. SMTP

D. **all of the above**

13. _____ method is used to wait for client request in UDP
A. Wait
B. **receive**
C. accept
D. none of these

14. _____ method is used to wait for client request in TCP
A. Wait
B. receive
C. **accept**
D. none of these

15. If we want to pass an object over network it should implement
A. Runnable
B. **Serializable**
C. Cloneable
D. none of these

16. _____ class is used to make server wait for client request in TCP.
A. Socket
B. **ServerSocket**
C. SocketInputStream
D. none of these

17. Valid range of port number for a java application is
A. 0 to 65535
B. 1 to 65535
C. **1024 to 65535**
D. none of these

18. Marshalling is
A. Converting packets into data
B. **converting data into packets**
C. converting bytes into character

19. TCP is reliable
A. True B. false

20. What will be printed out if you attempt to compile and run the following code?
int i=9; switch
(i) { deiault:
System.out.println("default"); cazse
0:
Sy:stem.out.println("zero");
break; case 1:

System.out.println("one"); case
2: system.out.println("two"); }
a) default
b) default, zero
c) error default clause not defined
d) no output displayed

21. Which of the following lines will compile without warning or error.
a) float f=1.3;
b) char c="a";
c) byte b=257; '
d) boolean b=null;
e) **int i=10;**

22. How to terminate JVM when I close all the application windows?
a. Systemexit(u) b. System.exit(1) c. 3ystem.exit(2) d. All are invalid answers

USM's Shriram Mantri Vidyanidhi Info Tech Academy

Operating System Question Bank eDAC Sept 21

1) DDE feature is supported by

a. IPC b. Hard Real Time System c. Microkernel d. None

2) A program that acts as an interface between process and OS is called

a. Kernel **b. System call** c. Microkernel d. Virtual Machine

3) The time sharing operating system is also called as

a. Multiprogramming **b. Multitasking** c. Both d. None

4) IPC is required in

a. Multiprocessing b. Single processing c. Both d. None

5) DDE stands for

a. Distributed Dynamic Exchange b. Dynamic Distributed Exchange

c. Distributed Data Exchange **d. Dynamic Data Exchange**

6) A PCB is created when a process is

a. Running b. Ready **c. Created** d. None

7) ISR stands for

a. Inter Service Routine **b. Interrupt Service Routine**

c. Interrupt Set Routin d. Internal Service Routing

8) Inter process communication can be done through

a. Mails **b. Messages** c. System calls d. Traps

9) 9The operating system of a computer serves as a software interface between the user and the

a. Hardware b. Peripheral c. Memory **d. Screen**

10) A thread is a _____ process.

a. Heavy Weight b. Multiprocess c. Inter Thread **d. Light weight**

11) 1 A process said to be in _____ state if it was waiting for an event that will never occur.

a. Safe b. Unsafe **c. Deadlock** d. All

12) The Hardware mechanism that enables a device to notify the CPU is called _____.

a. Polling **b. Interrupt** c. System Call d. None of the above

13) IPC stands for

a. Inner Process Communication b. Inter Process Call

c. Inter Process Communication d. Intra Process Call

14) For non sharable resources like a printer, mutual exclusion :
a. **must exist** b. must not exist c. may exist d. None of these

15) The request and release of resources are _____.
a. command line statements b. interrupts **c. system calls** d. special programs

16) A machine that acts as a virtual computer is called
a. **Virtual Machine** b. Virtual Environment c. Both d. None

17) Semaphores are used to solve the problem of
a. race condition b. process synchronization **c. mutual exclusion** d. belady problem

18) In which scheduling policies, context switching never takes place
a. **FCFS** b. round robin c. Shortest job first d. Pre-empitive

19) Which technique was introduced because a single job could not keep both the CPU and the I/O devices busy?
a. Time-sharing b. Spooling c. Preemptive scheduling **d. Multiprogramming**

20) Which of the following memory allocation scheme suffers from External fragmentation? a. **Segmentation** b. Pure demand paging c. Swapping d. Paging

21) A major problem with priority scheduling is _____.
a. Definite blocking **b. Starvation** c. Low priority d. None of the above

22) A state is safe if
a. It removes deadlock b. It detects deadlock c. It avoids deadlock **d. None**

23) Banker's Algorithm is implemented to
a. Detect Deadlock b. Prevent Deadlock **c. Avoid Deadlock** d. All

24) 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 :
a. **the cost incurred** b. the memory used c. the CPU used d. All of these

25) Semaphore is a/an _____ to solve the critical section problem.
a. hardware for a system b. special program for a system
c. integer variable d. None of these

26) Virtual memory is normally implemented by _____.
a. **demand paging** b. buses c. virtualization d. All of these

27) When a thread needs to wait for an event it will

a. Block b. Execute c. Terminate d. Update

28) Paging increases the _____ time.
a. waiting b. execution **c. context – switch** d. All of these

29) Smaller page tables are implemented as a set of _____.
a. queues b. stacks c. counters d. **registers**

30) _____ is generally faster than _____ and _____.
a. **first fit, best fit, worst fit** b. best fit, first fit, worst fit
c. worst fit, best fit, first fit d. None of these

31) The two steps of a process execution are : (choose two)
a. **I/O Burst** b. **CPU Burst** c. Memory Burst d. OS Burst

32) An I/O bound program will typically have :
a. a few very short CPU bursts b. many very short I/O bursts
c. many very short CPU bursts d. a few very short I/O bursts

33) The operating system manages
a. Memory b. Processor c. Disk and I/O devices **d. All of the above**

34) The switching of the CPU from one process or thread to another is called :
a. process switch b. task switch c. context switch d. **All of these**

35) Dispatch latency is :
a. the speed of dispatching a process from running to the ready state
b. the time of dispatching a process from running to ready state and keeping the CPU idle
c. **the time to stop one process and start running another one**
d. None of these

36) A problem encountered in multitasking when a process is perpetually denied necessary resources is called
a. deadlock b. **starvation** c. inversion d. aging

37) A CPU bound program will typically have :
a. a few very short CPU bursts b. **many very short I/O bursts**
c. many very short CPU bursts d. a few very short I/O bursts

38) Multithreaded programs are :

a. lesser prone to deadlocks
b. **more prone to deadlocks**
c. not at all prone to deadlocks
d. None of these

39) To ensure that the hold and wait condition never occurs in the system, it must be ensured that :

a. whenever a resource is requested by a process, it is not holding any other resources
b. each process must request and be allocated all its resources before it begins itsexecution
c. a process can request resources only when it has none
d. **All of these**

40) The disadvantage of invoking the detection algorithm for every request is :

a. overhead of the detection algorithm due to consumption of memory
b. excessive time consumed in the request to be allocated memory
c. **considerable overhead in computation time**
d. All of these

41) A computer system has 6 tape drives, with 'n' processes competing for them. Each process may need 3 tape drives. The maximum value of 'n' for which the system is guaranteed to be deadlock free is :

a.

2 b. 3 c. 4 d. 1

42) 4A system has 3 processes sharing 4 resources. If each process needs a maximum of 2 units then, deadlock :

a. **can never occur** b. may occur c. has to occur d. None of these

43) 'm' processes share 'n' resources of the same type. The maximum need of each process doesn't exceed 'n' and the sum of all their maximum needs is always less than m+n. In this setup, deadlock :

a. **can never occur** b. may occur c. has to occur d. None of these

44) The two ways of aborting processes and eliminating deadlocks are : (choose all that apply)

a. **Abort all deadlocked processes**
b. Abort all processes
c. Abort one process at a time until the deadlock cycle is eliminated d. All of these

45) Those processes should be aborted on occurrence of a deadlock, the termination of which :

a. is more time consuming b. **incurs minimum cost**
c. safety is not hampered d. All of these

46) Cost factors of process termination include : (choose all that apply) a. **number of resources the deadlock process is holding**
b. **CPU utilization at the time of deadlock**
c. amount of time a deadlocked process has thus far consumed during its execution
d. All of the above

47) If we preempt a resource from a process, the process cannot continue with its normal execution and it must be :

a. aborted **b. rolled back** c. terminated d. queued

48) To _____ to a safe state, the system needs to keep more information about the states of processes.

a.abort the process **b. roll back the process** c. queue the process d. None of these

49) If the resources are always preempted from the same process, _____ can occur.

a. deadlock b. system crash c. aging d. **starvation**

50) The solution to starvation is :

a. **the number of rollbacks must be included in the cost factor**

a.

b. the number of resources must be included in resource preemption
c. resource preemption be done instead
d. All of these

51) The strategy of making processes that are logically runnable to be temporarily suspended is called : a. Non preemptive scheduling b. **Preemptive scheduling**
c. Shortest job first d. First come First served

52) Scheduling is :
allowing a job to use the processor b. making proper use of processor
c. **Both i and ii** d. None of these

53) Which one of the following is not shared by threads?
a. program counter b. stack mentioned c. **both (i) and (ii)** d. none of the

54) When the event for which a thread is blocked occurs, a. **thread moves to the ready queue** b. thread remains blocked
c. thread completes d. a new thread is provided

56) The register context and stacks of a thread are deallocated when the thread
a. **terminates** b. blocks c. unblocks d. spawns

57) Thread synchronization is required because
a. all threads of a process share the same address space
b. all threads of a process share the same global variables
c. all threads of a process can share the same files
d. **all of the mentioned**

58) The kernel keeps track of the state of each task by using a data structure called __ a. **Process control block** b. User control block
c. Memory control block d. None of the above

59) In the multi-programming environment, the main memory consisting of _____ number of process.
a. Greater than 100 b. Only one c. Greater than 50 d. **More than one**

a.

60) Which of the following statement is not true?
a. Multiprogramming implies multitasking b. Multi-user does not imply multiprocessing
c. Multitasking does not imply multiprocessing d. **Multithreading implies multi-user**

61) Saving the state of the old process and loading the saved state of the new process is called _____.
a. **Context Switch** b. State c. Multi programming d. None of the above

62) Resource locking _____.
a. Allows multiple tasks to simultaneously use resource
b. **Forces only one task to use any resource at any time**
c. Can easily cause a dead lock condition
d. Is not used for disk drives

63) Operating system is
a. A collection of hardware components b. A collection of input output devices
c. **A collection of software routines** d. All of the above

64) Piece of code that only one thread can execute at a time is called
a. Mutual Exclusion **b. Critical Section** c. Synchronization d. All of these

65) I/O function allows to exchange data directly between an
Process States b. Registers **c. I/O module and processor** d. I/o devices

66) Memory of computer system for storing provides
a. array of characters b. array of alphabets **c. array of words** d. array of numbers

67) Processor-I/O involves data transferring between
a. Computers b. **Processor and I/O modules** **c.** Registers d. User

68) Invalid memory access to computer system is a **a. trap** **b.** program c. process d. interrupt

69) The directory contains special files associated with input output devices such as terminals, line printer etc a. /etc **b. /dev** c. /bin d. /device e. /mnt

70) The utility program that searches a file, or more than one file, for lines which contain strings of a certain pattern
a. Find **b. grep** c. tr d. locate e. pr f. search

a.

71) The Block of every file system contains the major pieces of information about the file system such as file system name , number of blocks reserved for inodes , free inode list etc

a. Inode block **b. Super block** c. Boot block d. Data block

72) Unix OS was first developed at

a. Microsoft Corp, USA **b. AT & T Bell Labs , USA**
c. IBM , USAd.Borlan d. Internationa, USA

73) Internal value associated with the standard error device.

a. 0 b. 1 **c. 2** d.9 e.3

74) A file may have more than one name. This is accomplished using which of the following commands? a. dup **b. ln** c. name d. fork e. cp

75) Which command displays all information about every system process?

a. ps b. ps -f **c. ps -ef** d. ps –a e. ps -u

76) Part of the system which manages the resources of computer system, keep track of the disks, tapes, printers, terminals, communication lines and any other devices.

a. Schedular **b. Kernel** c. Shell d. Resource manager e. System call

77) Chmod 754 on a file

a. allow group and other to read , write b. allow owner to only read
c. allow others to only read d. allow group to only execute

78) If your process refuses to die with kill command in the normal number, signal number option used is

a. 13 **b.9** c. 3 d.0 e.99

79) When we are executing a shell script the shell acts as

An Interpreter b. A Compiler c. An Operating System d. None of the above

80) A null variable X can be created using

a. X= b.X=’’ c.X=”” **d. all the above**

a.

81) init _____ halts the system

a. 1 **b.0** c. h d.5

82) What would the following file permissions mean "rwxr-xr—"? a.
Read, write and execute permission for everyone.

b. **Read, write and execute permission for the file owner, read and execute permission for the group, and only read permission for all others.**

c. The file owner is the only one who can execute the file.

d. People who do not own the file and are not in its group, can only run it. System and Network Administration-I

83) A hierarchical structure consisting of directories and files

a. Track b. cylinder c. partition **d. filesystem**

84) Which of the following is not a component of a user account?

a. home directory b. password c. group ID **d. kernel**

85) The redirection symbol for output is

a. > b.< c.^ **d. |**

86) To find out a file's inode number, use this option on the "ls" command. a. **-i** b. -inode c. -inum d. -in

87) By default, "ps" command will list

a. All processes running of a current users in all terminals

b. **Only processes running in that terminal of the current users**

c. All processes for all users

d. Processes for other users only

88) Which of the following is not a major Unix shell?

a. C shell **b. WIN shell** c. bash shell d. Korn shell

89) The purpose of the PATH variable is to a.
Show the current directory

b. Show the directory path of a file

c. **Tells the shell what directories to search when a command is entered**

d. Tells the shell in which directories new file can be created

a.

90) The run configuration file in Vi is called
a. cshrc b. virc **c. bashrc** d. exrc

91) Use the following command to save and exit from Vi.
ZZ b.:w c. :q! d. wq **e. Both a and d option**

92) Which of the following Unix utilities are not commonly used to process regular expressions?
a. grep b. sed **c. cut** d. awk

93) Which file controls the initialization process?
a. Fstab **b. inittab** c. sysconfigtab d. gettytab

94) Names are associated with the IP addresses, so that users do not have to remembers IP addresses, This association is the job of the
a. IPN **b. DNS** c. INS d. TCP e. IP

95) New users are added into this file.
a. /passwd b. /usr **c. /etc/passwd** d. /home

96) Passing information between programs is called.
a. Program intertalk b. Program communication
c. Interprocess communication d. Task communication

97) To make a variable available to any subshells you execute using command
a. Import b. global **c. export** d. set e. path

98) User request background execution of a program by placing what at the end of the command line
a. # b. @ **c. &** d. * e. !

99) With a umask value of 12, What are the default permissions assigned to newly created files? a.
--x—x-wx **b. -rw-rw-r—** c. -r-xr-xr— d.-rw-rw----

100) The tar command is used to
a. Print the contents of a file b. Reformatting a file before printing

a.

c. Making archive tapes d. Merging a file

101) Which one is not a characteristic of pipes a.
Connect commands
b. Multiple pipes can be used on a command line
c. **Can create individual files for every process output**
d. Can also be used with |tee symbol

102) To create a hidden file in unix system
a. Filename typed in upper case **b. First character of filename is. (dot)**
c. Filename containing # anywhere d. First character of filename is $.

103) The "nice" command is used to
a. Communicate with other users
b. **Improve relationships**
c. Change Priority levels of running processes
d. Create processese. format a document so that its look nice

104) The letters TCP/IP stand for
a. Telecommunication Control Program/Internet Program
b. **Transmission Control Protocol/Internet Protocol**
c. Teleprocessing Conversion Program/Internet Program
d. None of the above

105) Which special variable contains the PID of its own process?
a. $job **b. $$** c. PID d. $ps

106) The process that needs to run in the background as a daemon to ensure that logging happens is: **a. telnetd** b. syslogd c. fsck d. All of these

107) The minimum number of link for a directory is
a. 1 **b. 2** c. 6 d. 3 e. 5

108) Answer the following:-
a. What is the difference between the two commands.
b. $ cat < fileone > filetwo 2> errorlst
c. $ cat > filetwo 2> errorlst < fileone
d. Ans: It's a same command, the order of redirection make no difference

109) What is the meaning of exit status value and how can we access the exit status value of any command
Ans: Exit status meaning the command return value to the environment indicatingit is successfully executed or have error
Exit Status value is stored in environment variable $?

110) Differentiate between Relative path and Absolute path
Ans:Relative path is path relative to the current director, so its start with either. or directory name , Absolute or full path always start with /that is root so user can be in any directory it will direct to that path only Write a command to substitute all occurrences of word "printf "with "cout" from a file myprog.c
Anssed'1,$s/printf/cout/g' myprog.c

111) Explain the directories /bin, /dev and /mnt Ans: /bin contains all binary executable file or user utility
a. /dev contains all device files of the system
b. /mnt is a directory for mounting devices

112) What is operating system?
a. collection of programs that manages hardware resources
b. system service provider to the application programs
c. link to interface the hardware and application programs
d. **all of the mentioned**

113) To access the services of operating system, the interface is provided by the
a. system calls b. API c. library d. assembly instructions

114) Which one of the following is not true?
a. kernel is the program that constitutes the central core of the operating system
b. kernel is the first part of operating system to load into memory during booting
c. **kernel is made of various modules which can not be loaded in running operating system**
d. kernel remains in the memory during the entire computer session

115) The systems which allows only one process execution at a time, are called
a. uniprogramming systems b. uniprocessing systems
c. unitasking systems d. none of the mentioned

116) What is the ready state of a process?
a. **when process is scheduled to run after some execution**
b. when process is unable to run until some task has been completed
c. when process is using the CPU
d. none of the mentioned

117) The number of processes completed per unit time is known as _____. a. Output **b. Throughput** c. Efficiency d. Capacity

118) The state of a process is defined by :
a. the final activity of the process b. the activity just executed by the process
c. the activity to next be executed by the process **d. the current activity of the process**

119) Which of the following is not the state of a process?
a. New **b. Old** c. Waiting d. Running

120) The Process Control Block is:
a. Process type variable **b. Data Structure**
c. a secondary storage section d. a Block in memory

121) The degree of multi-programming is
a. the number of processes executed per unit time b. the number of processes in the ready queue
c. the number of processes in the I/O queue **d. the number of processes in memory**

122) The objective of multi-programming is to: (choose two)

a.

a. **Have some process running at all times** b. Have multiple programs waiting in a queue ready to run
c. To minimize CPU utilization **d. To maximize CPU utilization**

123) The processes that are residing in main memory and are ready and waiting to execute are kept on a list called
a. job queue **b. ready queue** c. execution queue d. process queue

124) The interval from the time of submission of a process to the time of completion is termed as
a. waiting time **b. turnaround time** c. response time d. throughput

125) Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?
a. **first-come, first-served scheduling** b. shortest job scheduling
c. priority scheduling d. none of the mentioned

126) Time quantum is defined in
a. shortest job scheduling algorithm **b. round robin scheduling algorithm**
c. priority scheduling algorithm d. multilevel queue scheduling algorithm

127) An interrupt breaks the execution of instructions and diverts its execution to a.
Interrupt service routine b. Counter word register
c. Execution unit d. control unit

128) How does the processor respond to an occurrence of the interrupt?
a. **By Interrupt Service Routine** b. By Interrupt Status Routine
c. By Interrupt Structure Routine d. By Interrupt System Routine

129) On getting, an interrupt, CPU
a. **finishes the current instruction and moves to interrupt service routine**
b. immediately moves to interrupt service routine without completing current instruction [
c. releases the control on I/O lines and memory lines
d. makes the peripheral device, which requested the interrupt wait for fixed interval of time

130) Round robin scheduling falls under the category of :
a. Non preemptive scheduling **b. Preemptive scheduling**
c. Preemptive and Non-preemptive d. None of these

131) The portion of the process scheduler in an operating system that dispatches processes is concerned with
a. **assigning ready processes to CPU** b. assigning ready processes to waiting queue
c. assigning running processes to blocked queue d. All of these

132) The FIFO algorithm :
a. first executes the job that came in last in the queue
b. **first executes the job that came in first in the queue**

c. first executes the job that needs minimal processor
d. first executes the job that has maximum processor needs

133) Under multiprogramming, turnaround time for short jobs is usually _____ and that for long jobs is slightly _____.
a. Lengthened; Shortened
b. Shortened; Lengthened
c. Shortened; Shortened
d. Shortened; Unchanged

134) The _____ swaps processes in and out of the memory.
a. **memory manager unit**
b. CPU
c. CPU manager
d. user

135) Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called
a. fragmentation
b. paging
c. none of the mentioned

136) Operating System maintains the page table for **each process**
b. each thread
c. each instruction
d. each address

a.

137) The main memory accommodates: (Choose any two)
a. **operating system** b. CPU **c. user processes** d. All of these

138) In contiguous memory allocation :
a. **each process is contained in a single contiguous section of memory**
b. all processes are contained in a single contiguous section of memory
c. the memory space is contiguous
d. None of these

139) When memory is divided into several fixed sized partitions, each partition may contain _____. a. **exactly one process** b. atleast one process
c. multiple processes at once d. None of these

140) In fixed sized partition, the degree of multiprogramming is bounded by _____. a. **the number of partitions** b. the CPU utilization
c. the memory size d. All of these

141) In internal fragmentation, memory is internal to a partition and
a. is being used **b. is not being used** c. is always used d. None of these

142) Solution to the problem of external fragmentation problem is to
a. **permit the logical address space of a process to be noncontiguous**
b. permit smaller processes to be allocated memory at last
c. permit larger processes to be allocated memory at last
d. All of these

143) External fragmentation exists when
a. **enough total memory exists to satisfy a request but it is not contiguous**
b. the total memory is insufficient to satisfy a request
c. a request cannot be satisfied even when the total memory is free d. None of these

144) When the memory allocated to a process is slightly larger than the process, then
a. **internal fragmentation occur** b. external fragmentation occur
c. both a and b d. neither a nor b

145) Physical memory is broken into fixed-sized blocks called _____.
a. **frames** b. pages c. backing store d. None of these

a.

146) 1 Logical memory is broken into blocks of the same size called _____.
a. frames **b. pages** c. backing store d. None of these

147) The size of a page is typically:
a. varied **b. power of 2** c. power of 4 d. none of the mentioned

148) Because of virtual memory, the memory can be shared among **processes** b. threads c. instructions d. none of the mentioned

149) Swap space exists in
a. primary memory **b. secondary memory** c. CPU mentioned d. none of the

150) When a program tries to access a page that is mapped in address space but not loaded in physical memory, then
a. segmentation fault occurs b. fatal error occurs **c. page fault occurs** d. no error occurs

151) CPU Scheduling is the basis of _____ operating system
a. Batch b. Uniprogramming c. **Multiprogramming** d. Monoprogramming

152) CPU performance is measured through _____.
a. **Throughput** b. MHz c. Flaps d. None of the above

153) Process is
a. Program in high level language kept on disk b. Contents of main memory
c. A program in execution **d.** A program in secondary memory

154) Which among following scheduling algorithms give minimum average waiting time
a. FCFS b. **SJF** **c.** Round robin d. Priority

155) Paging _____.
a. **solves the memory fragmentation problem** b. allows modular programming
c. allows structured programming d. avoids deadlock

156) Virtual memory is _____.
a. An extremely large main memory b. An extremely large secondary memory
c. **An illusion of extremely large main memory** d. A type of memory used in super computers.

157) The two steps of a process execution are: (choose two)
a. **I/O Burst** **b. CPU Burst** c. Memory Burst d. OS Burst

a.

158) An I/O bound process will typically have:
a. a few very short CPU bursts b. many very short I/O bursts
c. many very short CPU bursts d. a few very short I/O bursts

159) A process is selected from the _____ queue by the _____ scheduler, to be executed.
a. blocked, short term b. wait, long term c. **ready, short term** d. ready, long term

160) With round robin scheduling algorithm
a. **using very large time slices converts it into First come First served scheduling algorithm**
b. using very small time slices converts it into First come First served scheduling algorithm
c. using extremely small time slices increases performance
d. using very small time slices converts it into Shortest Job First algorithm

161) Who is called a supervisor of computer activity?
Memory b. **Operating System** **c.** OCI/O Device d. Control Unit
162) The kernel keeps track of the state of each process by using a data structure called a.
Process control block b. User control block
c. Memory control block d. None of the above

163) _____ scheduler selects the jobs from the pool of jobs and loads into the ready queue.
a. **Long term** b. Short term c. Medium term d. None of the above

164) What is Thrashing?
a. **A high paging activity** **b.** A high executing activity
c. An extremely long process d. An extremely long virtual memory

165) Poor response times are caused by
a. Busy processor b. High I/O rate c. High paging rates **d. Any of above**

166) If process is running currently executing, it is in running
a. Mode b. Process c. **State** d. Program

167) Microkernel architecture facilitates
a. Functionality b. **Extensibility** **c. Reliability** **d.** Portability

168) Privileged mode of operating system mode is a
a. user mode b. **kernel mode** **c.** system mode d. both b and c

a.

169) An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____.

a. FCFS scheduling algorithm b. Round robin scheduling algorithm
c. Shorest job - first scheduling algorithm d. None of the above

170) Which of the following memory allocation scheme suffers from External fragmentation?

a. Fixed Memory Partition **b. Dynamic Memory Partition** c. Paging d. None

171) Which of the following is crucial time while accessing data on the disk?

a. **Seek time** b. Rotational time c. Transmission time d. Waiting time 172. A program at

172) the time of executing is called _____.

a. Dynamic program b. Static program c. Binded Program **d. A Process**

173) Using Priority Scheduling algorithm, find the average waiting time for the following set of processes given with their priorities in the order: Process : Burst Time : Priority respectively . P1 : 10 : 3 , P2 : 1 : 1 ,
P3 : 2 : 4 ,
P4 : 1 : 5 ,
P5 : 5 : 2.

a. 8 milliseconds **b. 8.2 milliseconds** c. 7.75 milliseconds d. 3 milliseconds

174) A process is created and initially put in the
ready queue **b. job queue** c. I/O queue d. None

a.

175) PCB =
a. Program Control Block **b. Process Control Block**c. Process
c. Communication Block d. None of the above PCB

176) Round robin scheduling is essentially the preemptive version of _____.
a. FIFO b. Shortest job first c. Shortes remaining d. Longest time first

177) 1 FIFO scheduling is _____.
a. Preemptive Scheduling **b. Non Preemptive Scheduling**
c. Deadline Scheduling d. Fair share scheduling

178) In priority scheduling algorithm
a. CPU is allocated to the process with highest priority
b. CPU is allocated to the process with lowest priority
c. equal priority processes can not be scheduled
d. none of the mentioned

179) In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of
a. all process b**. currently running process** c. parent process d. init process

180) 1 Turnaround time is
a. the total waiting time for a process to finish execution
b. the total time spent in the ready queue
c. the total time spent in the running queue
d. the total time from the completion till the submission of a process

181) Waiting time is
a. the total time in the blocked and waiting queues
b. the total time spent in the ready queue
c. the total time spent in the running queue
d. the total time from the completion till the submission of a process

182) Scheduling is done so as to :
a. increase the waiting time b. keep the waiting time the same
c. decrease the waiting time d. None of these

183) Response time is
a. the total time taken from the submission time till the completion time
b. **the total time taken from the submission time till the first response is produced**

c. the total time taken from submission time till the response is output d. None of these

184) The FCFS algorithm is particularly troublesome for _____.
a. time sharing systems **b. multiprogramming systems**
c. multiprocessor systems d. Operating systems

185) One of the disadvantages of the priority scheduling algorithm is that :
a. it schedules in a very complex manner b. its scheduling takes up a lot of time
c. it can lead to some low priority process waiting indefinitely for the CPU d. None of these

186) CPU scheduling decisions takes place under following conditions a. When a process switches from running to ready state
a. When a process switches from running state to waiting state
b. When a process terminates
c. **All of the Above**

187) What is meant by throughput?
a. Number of processes running in the system
b. **Number of process completed per unit time by the system**
c. Number of processes waiting for CPU per unit time
d. None of the above

188) When CPU becomes idle which scheduler is called?
a. Short term scheduler b. Medium term scheduler c. Long term scheduler d. Any

189) What is a medium-term scheduler?
a. It selects which process has to be brought into the ready queue
b. It selects which process has to be executed next and allocates CPU
c. **It selects which process to remove from memory by swapping** d. None of these

190) What is Turnaround time of a process? a. Time spent in waiting queue
b. **Time spent in ready queue + waiting queue + running state**
c. Time spent in ready queue + waiting queue
d. Time spent in ready queue

191) Which scheduler selects which processes should be brought into the ready queue?

a. Real-term **b.Long-term** c. Medium-term d.Short-term

192) A page fault occurs
a. **when the page is not in the memory**
b. when the page is in the memory
c. when the process enters the blocked state
d. when the process is in the ready state

193) A CPU bound process will typically have
a. **many very long CPU bursts** b. many very short I/O bursts
c. many very short CPU bursts d. **a few very short I/O bursts**

194) The chunks of a memory are known as
a. Sector b. Offset c. Page **d. Frame**

195) Which of the following concept is best to preventing page faults?
a. Paging **b. The working set** c. Hit ratio d. Address location resolution

196) Copying a process from memory to disk to allow space for other process is called
a. Swap out b. Deadlock c. Demand Paging d. Page fault

197) _____ is a large kernel containing virtually the complete operating system, including, scheduling, file system, device drivers and memory management.
a. Multilithic kernel **b. Monolithic kernel** c. Micro kernel d. Macro kernel

198) A ..... architecture assigns only a few essential functions to the kernel,including address spaces, Inter process communication(IPC) and basic scheduling.
a. Monolithic kernel **b. Micro kernel** c. Macro kernel d. Mini kernel

199) With ..... only one process can execute at a time; meanwhile all other process are waiting for the processer. With ..... more than one process can be running simultaneously each on a different processer.
a. Multiprocessing, Multiprogramming b. Multiprogramming, Uniprocessing
c. Multiprogramming, Multiprocessing d. Uniprogramming, Multiprocessing

200) System call routines of operating system are mostly written in
a. C b. C++ c. java d. **both a and b**

201) How does the Hardware trigger an interrupt?
a. **Sending signals to CPU through system bus**
b. Executing a special program called interrupt program
c. Executing a special program called system program
d. Executing a special operation called system call

202) Which is not the function of the Operating system?
a. Memory management b. Disk management c. Application management **d. Virus protection**

203) The page table entry contains_____
a. the information regarding given page is valid or not
b. the information regarding given segment is valid or not
c. the information regarding given page table is valid or not
d. **All of the above**

204) Binary Semaphores are used for _____
a. resource allocation b. critical sections **c. mutual exclusion** d. synchronization

205) Which CPU scheduling algorithm is non-preemptive type from the following?
a. Shortest job first scheduling b. Round robin scheduling
c. Priority based scheduling **d. First come first serve based scheduling**

206) What will be the possibility, when process comes in wait or block state?
a. disk operation b.
time since expire
c. due to the higher priority process arrival **d. All of the above**
207) What is attenuation?
a. Noise of the cable **b. Loss of signal strength** c. Unwanted signals d. None of the above

208) Which one is he correct statement regarding thread? a. Logical extension of the process a.
Very similar to the process
b. hreads have there own address space they do not use the process address space
c. **Threads share the same address space that is used by the process**

209) What linker does?
a. merging object files
b. sorting text and data
c. **resolve symbols across modules**
d. All of the above

210) A pointer is said _____ if the definition of the type to which it points to is not included in the current translation unit. A translation unit is the result of merging an implementation file with its headers and header file
a. This pointer **b. Opaque pointer** c. Function pointer d. Nested pointer

211) Which statement is true for the deadlock?

a. It is very usual, when a process terminates, it became dead process and his lead to dead lock
b. Deadlock arises when a process try to accessa non shareable resources
c. **Deadlock arises when process is holding some more resources that are already hold by some other process and no onewant to release their resources**
d. Deadlock arises when we try to lock the process and the process is in running state that lock become a dead lock

212) By using interrupt which kind of problem will be eliminated?
a. Spooling **b. Polling** c. Job Scheduling d. None of the above

213) Copy-on-write concept is_____
a. applicable only for two unrelated processes
b. used by the processes those created with the help of exec call
c. used by the any kind of process no restriction
d. **used by the related processes**

214) What are the resources for the computer system? a. CPU cycles
b. System buses
c. Operating system code an d data structure
d. **All of the above**

215) Which statement is true from the following?
a. A safe state is a deadlock state always
b. An unsafe state is a deadlock state always
c. **An unsafe state has a probability to be a deadlock state**
d. All are tgrue

216) Virtual memory with paging mechanism (page-replacement technique) provides
a. runtime relocatability b. memory extension
c. memory protection **d. All of the above**

217) With any Disk Scheduling Algorithms, Performance depends on_____
a. Number of requests b**. Number and types of requests**
c. Types of requests d. None of the above

218) Which one is not a part of the kernel?
a. Memory management **b. Debuggers management**
c. Interrupt Management d. Timer and clock management

219) How many processes can be active in a monitor at a time?
a. Any no of processes **b. Only one** c. Only two d. None of the above

220) Which register is use for memory management?
a. base register b. bound register and stack pointe
c. base and bound registeruit d. base and stack pointer register

221) What is the use of the program counter register? a.
It points to the next program in the execution
b. **It points to the next instruction statement in the program**
c. It points to the next block of code in the execution
d. None of the above

222) Which of the following stack operation could result as stack underflow/
a. is empty b**. pop** c. push d. Two or more of the above answers

223) Which statement is true?
a. Cache memory is type of the nonvolatile memory b. RAM stands for reliable access memory
c**. Cache resides between main memory and CPU** d. Hard disk is made up of different layer of the RAM

224) During process execution, which state transaction, is not possible?
a. ready state to running state b. running state to block state
c. block state to terminate state d. block state to ready state

225) What is process control block?
a. It is data structure that represents the process
b. It is a data structure, which is part of the user space, and it represents the process
c. **It is a data structure, which is part of the kernel space, and it represents the process**
d. It is not a data structure which can be in virtual address space it represent the process

226) Paging leads to _____
a**. Internal fragmentations** b. External fragmentations c. Both 1 & 2 d. All of the above

227) Internal Value associated with the standard error device
a. 0 **b. 1** c. 2 d. 9 e. 3
228) The redirection symbol for output is
a. > b. < c. ^ d. |

229) Which command will be used to display the current user id and name?
a. Who b. Which c. Who am i d. where is

230) As an abstraction, what operations apply to processes?
a. create b. exit c. status **d. All of the above**

231) Which command allow you to determine if a host is connected to the internet?
a. cmd b. Is-Ia **c. ping**
d. pwd

232) Computer that handles concurrent users and multiple jobs are called_____
a. Client b. Network Client **c. Network servers** d. All of the above

233) Which of the following make up DOS?
a. Boot files b. File Management files c. Utility files **d. All of the above**

234) The file assign4.html has permissions to set as r w x r w x r w x a.
The file is really a directory and was named incorrectly
b. **Everyone can read, write, and execute the file**
c. It is impossible for a html file to have permissions set that way
d. The file can not be viewed on the WWW

235) Which of the following is true for DLLs?
a. DLLs don't get loaded in to random access memory together with the main program
b. A DLL helps promote developing modular programs
c. **Both 1 and 2**
d. None of the above

236) On a single processor multi-threading generally occurs by _____-
a. Time division multiplexing b. Multi processing **c. Context switching** d. None of the above

237) The ability of an Operating System to execute different parts of a program simultaneously is known as _____
a. Multi - Tasking b. Multi programming **c. Multi – Threading** d. Multi – scheduling

238) Which of the following is main objective of Disk Scheduling?
a. To minimize seek time b. To maximize turnaround time
c. To minimize throughout d. To maximize bandwidth

239) In which of the following condition deadlock will occur? a.
Mutual wait; hold and wait; pre-emption; circular wait
b. Mutual exclusion; hold and no wait; pre-emption; circular wait
c. **Mutual exclusion; hold and wait, pre-emption; circular wait**
d. Mutual exclusion; hold and wait; non pre-emption ; circular wait

240) Which command will be used to display what date is it this Friday?
a. Date-fri b. Date-d fri c. Cal-d fri d. None of the above

241) Which command will be used to print selected parts of lines from each FILE to standard output?
a. Cut [option]…[FILE]… b. Print [option]…[FILE]…
c.Cmp [option]…[FILE]… **d. Comm. [option]…[FILE]…**

242) Multiplexing of a single physical resource involves_____
a. Combining resources based on time b. Combining resources based on space
c. Dividing the resource based on time or space d. All of the above

243) When the processor is in user mode, all addresses are _____
a. Physical address b. Logical address c. Absolute address d. Memory address

244) What is an interrupt?
a. It is an immediate transfer of control caused by an event in the system
b. Some interrupts can only occur when bit 1 of the psw register is 1 c. Both 1 & 2
d. None of the above

245) Plan ahead so that you never get into a situation where deadlock is inevitable is called as _____
a. Deadlock prevention b. Deadlock avoidance c. Deadlock recovery d. Avoiding Mutual exclusion

246) In which situation a process is prevented from proceeding because some other process always has the resources it needs?
a. Locking b. Deadlock c. Starvation d. Blocking

247) Which of the following statement is false?
a. A smaller page size leads to smaller page tables
b. A smaller page size leads to move TLB misses
c. A smaller page size leads to fewer page faults
d. A smaller page size reduces paging I/O throughout

248) Anything that can be used by only a single process at any instant in time is called as _____
a. Memory b. Thread c. Space d. Resources

249) _____ determines which process gets CPU and when
a. Dispatcher b. Scheduler c. Allocator d. Process allocator

250) Which method is used to eliminate fragmentation after it occurs?
a. Compaction b. Segmentation c. Paging **d. All of the above**

251) Which method is used by memory to improve disk performance is used?
a. Disk Scheduling b. Disk caching c. Both 1 & 2 d. None of the above

252) When paging technique be used?
a. It is a solution to external fragmentation problem
b. It is used to allow a process to be allocating
c. Both 1 & 2
d. None of the above

253) 253. Which method is used by a program to make request to operating system?
a. System call b. CPU call c. Memory Management d. Interrupt call

254) The ability of a computer, machine, electronic system or network to maintain limited functionality even when a large portion of it has been destroyed or rendered is called as _____
a. Fault tolerance b. Fault Management **c. Graceful degradation** d. Denial of services

255) Memory allocation _____
a. is a process involves specification of memory addresses to its instructions and data
b. is an aspect of a more general action known as binding
c. **Both 1 & 2**
d. None of the above

256) Which type of binding perform before the operation of a program begins?
a. Static binding b. Dynamic binding c. Synchronous binding d. Asynchronous binding

257) Which of the following statement is true for dynamic allocation?
a. Allocation is performed during execution of a program b. Allocation exactly equals data size
c. No wastage of memory **d. All of the above**

258) Pre-emptive scheduling is used to temporally suspending a running process_____
a. To allow starving processes to run b. Before the CPU time slice expires
c. When it requests I/O d. When interrupt occurs

259) The memory allocated to a process contains _____
a. Code and non static data of the program to be executed b. Stack
c. Program controlled by dynamic data **d. All of the above**

260) Which of the following mode is performing I/O operations?
a. Interrupt mode b. Running mode c. Memory access mode d. Safe mode

261) When a process terminates and all it's child process must also be termed this situation is called as ___

a. Child termination b. Child parent termination
c. Spawn termination **d. Cascading termination**

262) Which of the following register contains address of the next instruction to be executed by the CPU?
a. Program counter register b. CPU registers c. Control register d. Condition code register

263) When an interrupt arises during its execution and the scheduler selects some other program for execution is called as _____
a. Preemption b. Non Preemption c. Priority d. Interrupt Processing

264) 264. Page-replacement technique provides_____
a. Memory contraction b. Compile time relocability
c. Memory protection d. None of the above

265) Swap space resides in _____
a. SRAM b. DRAM c. Processor **d. Disk**

266) Which of the following policy is used by Linux for page replacement?
a. LRU b. Optimal c. FIFO d. MRU

267) Which of the following statement is false?
1) Dirty buffers in the disk cache are written to the cache when the cache is too full
2) Each buffer in the cache has not a buffer header that is allocated in a slab of the slab allocator
3) The vnode data structure of the virtual file system contains pointers to device-specific functions

268) A process sends data to another process and the sender does not wait till the data is received by the receiver. This type of transfer is known as _____
a. Synchronous **b. Asynchronous** c. Blocking d. None of the above

269) Which command would yu use to create a sub-director in your home directory?
a. mkdir b. dir c. cp d. rm

270) Which command will display a calendar?
a. calendar **b. cal** c. dis cal d. view cal

271) The interval between submission of a request and the first response to that request is called as _____
a. Turnaround time b. Time delay **c. Response time** d. Request time

272) A unique number is used to look up an entry in the inode table which gives information on the type, size and location of the file is called as _____
a. Inode value b. Inode c. Inode number **d. All of the above**

273) Which of the following controls the degree of multi programming?
a. Long term scheduler b. Short term scheduler c. Both 1 & 2 d. None of the above

274) How can you view the permission-settings on all files in the current directory?
a. displayall **b. Is-l** c. listall d. listdir

275) Which command sends file content to standard output and list the content of short files to the screen?
a. echo b. cp **c. cat** d. None of the above

276) Which of the following statement is false?
a. Virtual memory is used only in multi-user systems
b. Segmentation suffers from external fragmentation
c. Paging suffers from internal fragmentation
d. Segmentation memory can be paged

277) In which scenario the First-Come, First-Served scheduling policy, I/O bound processes may have to wait long in the ready queue waiting for a CPU bound job to finish?
a. Aging **b. Priority inversion** c. Priority Inheritance d. Convoy effect

278) How can we determined the minimum number of page frames that must be allocated to a running process in a virtual memory environment?
a. the instruction set architecture b. page size
c. number of processes in memory d. physical memory size

279) Bootstrap loader is _____
a. A program, which resides in the user space **b. A program, which resides in ROM**
c. A program, which resides in the RAM d. A program, which is a module of the kernel space

280) POSIX pthread library implementation in Linux schedules_____ a. user threads without the help of the kernel
b. user threads with the help of light weight process
c. user threads with the help of kernel
d. user threads with the help of heavy weight

281) Segmentations leads to _____
a. External fragmentation b. Internal fragmentation c. Both 1 and 2 d. all of the above

282) What is the fundamental scheduling block for operating system?
a. Kernel thread b. Process Control Block (PCB) c. Light Weight Process d. User thread

283) Which inter processes Communication mechanism is fastest to exchange the data between processes?
a. PIPE b. FIFO **c. Shared Memory** d. Message Queue

284) What ping command does?
a. It sends ICMP ECHO_REQUEST to network hosts
b. It sends ICMP ECHO_REQUEST to network servers only
c. It sends ICMP non ECHO_REQUEST to network host
d. It sends ICMP non ECHO_REQUEST to network severs only

285) How can we find out the free space size to use on Linux System hard disk partition?
a. df-hs b. freedisk-hs c. fdisk-hs d. None of the above

286) How can we get the information about the CPU on the Linux system?
a. cat /usr/cpuinfo **b. cat /proc/cpuinfo** c. cat /root/proc/cpuinfo d. cat /root/usr/cpuinfo

287) Loader is use to _____
a. load the kernel from harddisk to main memory
b. **load the appropriate program into the main memory**
c. create the process and load in to the main memory
d. just make the program ready to load and loading in to memory is done by another Process

288) Where the main system message log file information get stored?
a. /var/log/message b. /usr/log/message c. /src/log/message
d./root/log/message 289) Which command can be use on Linux platform to shutdown the system?
a. shutdown-r now b. Shutdown c. init 0 d. init 6

290) What type of file system Linux is using?
a. FAT-32 b. NTFS c. LFS **d. Ext3**

291) What is the kernel architecture for Linux?
a. Micro kernel b. Macro kernel c. Monolithic kernel d. Hybrid kernel

292) What happens when a page fault occur for a valid legal virtual address? a. Process will terminate
b. Process will block
b. None of the above
c. The process will restart after the page is brought to the main memory and page table entry will

293) Virtual memory with paging mechanism (page-replacement technique) provides
a. runtime relocatability b. memory extension c. memory protection **d. All of the above**

294) Which of the following stack operation could result as stack underflow? 1
a. is_empty b. Pop c. Push d. Two or more of the above answers

295) How can we find out the free space size to use Linux system hard disk partition?
a. df-hs b. freedisk-hs c. fdisk-hs d. None of the above

296) _____ means that the data added by a subclass are discarded when an object of the subclass is passed or returned by value or from a function expecting a base class object?
a. Slicing b. Up casting c. Down Casting d. Name Mangling

297) Which CPU scheduling algorithm is non- preemptive type from the following?
4) a. Shortest job first scheduling b. Round robin scheduling
c. Priority based scheduling **d. First come first serve based scheduling**

298) Which system call will you use to get the parent of the process?
a. getp() b. getppid() c. getparentid() d. None of the above

299) _____ means that the data added by a subclass are discarded when an object of the subclass is passed or returned by value or from a function expecting a base class object?
a. Slicing b. Up casting c. Down Casting d. Name mangling

300) 300. Which statement is false?
a. Spanning tree is a tree associated with a network
b. A minimum spanning tree is a spanning tree organized so that the total edge weight between nodes is minimized
c. Minimum spanning tree of a graph gives the shortest distance between any 2 specified nodes d. None of the above

301) An array is having 12 elements, what will be the maximum number of comparisons that
a. 144 b. 12 c. 11 d. 13

302) Normally, when a hardware interrupt occur
a. mode switch and context-saving occur b. context-switch and context-saving occur
c. Both 1 & 2 d. None of the above

303) What happens when a page fault occur for an invalid_illegal virtual address? a. Process will terminate
b. Process will block
c. All of the above
d. The process will restart after the page is brought to the main memory and page table entry will update.

304) _____signal generate when we try to access the illegal memory location using invalid pointer
a. SIGSTOP b. SIGSEGV c. SIGTERM d. SIGNULL

305) An array is having 12 elements, what will be the maximum number of comparisons that required in Merge sort?
a.144 b. 11 c.12 d. 13

306) If a program that analyses an airline's ticketing transactions runs into an error, it should__ a. write the exceptions into a file and continue analysing transactions
b. display an error message and halt processing
c. delete the record containing an error
d. terminate the program

307) inode number represents_____
a. the directory on the file system uniquely **b. all types of files on the file system uniquely**
c. all process running on the system d. use of the code in thefile system

308) Which of the following is a false statement about binary tree?
a. Every binary tree has at least one node b. Every non-empty tree has exactly one root node
c. Every node has at most two children d. Every non-root node has exactly one parent

309) Drivers constitute which part of the Linux Operating System?
a. Kernel b. Shell c. Applications d. GUI

310) Which is the default shell used by the Linux OS?
a. KSH **b. BASH** c. SSH d. ASH

311) Which command will list out all files including hidden files?
a. ls -l b. ls –A c. ls -r **d. ls -a**

312) To copy a directory instead of a file which switch is used in cp?
a. -a b. –v c. -R d. -c

313) Which one of the following uses a relative path?
a. /root b. /var/lib/ **c. /home/student** d. /scripts

314) How does a user find out which directory he is currently working in?
a. cwd b. mv **c. pwd**
d. ls

315) Which command is used to rename a file?

a. ren b. cp **c. mv** d. none of the above

316) Which command is used to remove an empty directory?
a. del b. rm –R c. rm **d. rmdir**

317) Which of the following commands is correct?
a. more emp.db | cut -f 3 b. | cut -f 3 -d " "
c. more emp.db > cut -f 3 -d " " d. more emp.db > cut -f 3

318) The touch command updates what?
a. modification time and access time b. access time only
c. modification time only d. none of the above

319) Which command creates an archive and compresses it as well?
a. tar b. zip **c. gzip** d. none of the above

320) The command to change the ownership is
a. chgrp **b. chmod** c. takeown d. none of the above

321) chgrp does what?
a. Changes the owner b. Creates a new group c. Changes the access rights **d. none of the above**

322) chmod does what?
a. updates the mode of the file b. changes the access rights
c. updates the access time of the file **d. Both a & c**

323) How can read, write, execute (rwx) permission be represented in numeric form? a. 0 **b. 7**
c. 5 d. 8

324) Which command is used only to save a file in vi editor?
a.:wq b. :q c. :qa! **d. none of the above(:w)**

325) Which command is used to copy a block of text in vi editor?
a. y b. w c. p **d. none of the above(yy)**

326) Which command is used to start marking lines in vi editor?
a. ALT + v b. CTRL + v c. SHIFT + v **d. none of the above**

327) Which command is used to start marking a region in vi editor?
a. ALT + v **b. CTRL + v** c. SHIFT + v d. none of the above

328) Which should be the first line in every BASH (shell) script?
a. !#/bin/bash b. /bin/bash **c. #!/bin/bash** d. none of the above

329) Which of the following is a positional parameter?
a. &0 **b. $0** c. @0 d. none of the above

330) Which of the following arithmetic expression is correct?
a. $i=((i+1)) b. i=((i+1)) c. i=$((i+1)) **d. none of the above**

331) Which is a valid statement in a shell script?
a. echo "My name is $name" b. 122=I c. $i=13 d. none of the above

332) Which is NOT a valid statement in a shell script?
a. echo b. 122=I c. i=147 d. none of the above

333) . Which command can be used to modify the color of the text which appears on screen?
a. echo b. color c. tput d. none of the above

334) The if construct always ends with?
a. end if b. stop c. if **d. none of the above(fi)**

335) The else part of the if construct ends with?
a. end else b. stop c. esle **d. none of the above(fi)**

336) While testing an integer variable what does -lt indicate?
a. last **b. less than** c. last value d. none of the above

337) Which is a valid variable name in a shell script?
a.123var b. var* c. $var **d. none of the above**

338) Which is a valid I/O redirection command?
a. more file.txt > /dev/null b. more file.txt c. more file.txt <> cat **d. none of the above**

339) User space and kernel space are defined by:
a. Kernel b. Hardware-CPU c. Both 1 & 2 d. Administrator

340) Conventional RTOS uses_____
a. only kernel space b. only user space
c. may be user space and kernel space d. None of the above

341) Which CPU scheduling algorithm is the Preemptive scheduling?
a. First Come First serve (FCFS) b. Round Robin (RR) c. Both d. None of the above.

342) Which CPU scheduling algorithm may suffer from the Starvation Problem
a. Round Robin (RR) b. First Come First serve (FCFS) c. Priority scheduling d. None of the above.

343) A Multithreaded programming Benefits
a. Increase Responsiveness to user. b. Utilization of multiprocessor architecture.
c. Resource Sharing d. All of above

344) Circular waiting is
a. not a necessary condition for deadlock
b. a necessary condition for deadlock, but not a sufficient condition.
c. a sufficient condition
d. None of the above.

345) In an operating system using paging , if each 32-bit address is viewed as a 20-bit page identifier plus a 12bit offset, what is the size of each page?
a. 2^12 =4096 bytes b. 2^20 bytes c. 20 byte d. None of the above.

346) Advantage of memory management using virtual memory
a. More Process can be loaded in the momery, to try to keep the processor busy
b. A process whose image larger than memory can be executed
c. Both 1 & 2
d. None of the above.

347) Following is not a Disk scheduling algorithm:
a. First Come First serve (FCFS) b. Round Robin c. SCAN d. LOOK

348) Which of the following condition is necessary for the deadlock
a. Mutual exclusion and Hold-and-wait b. No preemption and circular wait
c. Both 1 & 2 d. None of the above.

349) LOOK disk scheduling algorithm:
a. Select the request with minimum seek time from current head position.
b. Moves the head from one end of the disk to other end, servicing request along the way.
c. Moves the head only as far as the final request in each direction, then it reverse direction immediately, without first going all the way to the end of the disk.
d. None of the above.

350) Thrashing is:
a. CPU scheduling algorithm b. disk-scheduling algorithm c. High Paging Activity d. None of the above.

351) Spooling
a. In spooling, a process writes its output to a temporary file rather than to an output device, such as a printer
b. In spooling, a process writes its output to an output device, such as a printer c. Both 1 & 2
d. None of the above.

352) A "critical section" of code is
a. A section that is executed very often, and therefore should be written to run very efficiently.
b. A section of the program that must not be interrupted by the scheduler.
c. A section of the program that is susceptible to race conditions, unless mutual exclusion is enforced. d. A section of the code executed in kernel mode

353) The OS uses a round robin scheduler. The FIFO queue of ready processes holds three processes A, B, C in that order. The time quantum is 18 msec. A context switch takes 2 msec. After running for 13 msec, B will block to do a disk read, which will take 30 msec to complete. Trace what will happen over the first 100 msec.
What is the CPU efficiency over the first 100 msec?
a.80% b.70% c.90% d.100%

354) "Time Quantum" in Round Robin Scheduling algorithm:
a. Time between the submission and completion of a process.
b. Time for the disk arm to move to the desired cylinder
c. Maximum time a process may run before being preempted
d. Time required to switch from one running process to another

355) An OS uses a paging system with 1Kbyte pages. A given process uses a virtual address space Of 128K and is assigned 16K of physical memory. How many entries does its page table contain?
a. 1024 b. 128 c. 512 d. 64

356) What is the "turnaround time" in scheduling algorithms? a. Time for a user to get a reaction to his/her input.
b. Time between the submission and completion of a process
c. Time required to switch from one running process to another
d. Delay between the time that a process blocks and the time that it unblocks

357) "chmod " command in Linux
a. Change the operating system mode b. Change the command mode
c. Change Access mode of file d. None of the above.

358) "grep" Command is used

a. make each column in a document in a separate file
b. combine a file and write them into a temp file
c. **search a file for lines containing a given format.** d. None of the above.

359) A program which is loaded into memory & is executing is commonly referred to as a:
a. Software. b. Job. c. Process. d. Program

360) Bankers Algorithm is used for:
a. Deadlock Characterization b. Deadlock Handling
c. Deadlock avoidance d. Deadlock Detection

361) To enable a process to be larger than amount of memory allocated, we use:
a. TLB. b. Fragmentation. c. Overlays. d. None of the above.

362) A _____ is a memory area that stores data while they are transferred between 2 devices:
a. Spool b. Buffer c. Cache d. Kernel

363) The command used to display long listing of file is:
a. **ls –l** b. ls –a c. ls –t d. ls –r
364) The _____ file stores information about file systems that are mountable during booting:
a. /lib b. /mnt c. /etc/fstab **d. /usr/local**

365) In Linux ____ command is used to change the current working directory & ____ command is Used to print the current working directory on the screen:
a. **cd, pwd** b. pwd, cd c. cd, cp d. cp, cd

366) _____ Is a special user who has ultimate privilege on Linux system:
a. Any user b. Super user c. Administrator d. None of the above

367) In Linux, we can display the content of text file by using the command:
a. display b. show c. cat d. All of the above

368) Which command is used to change the group of a file?
a. change group b. chgrp c. changep d. None of the above

369) If more than one process is blocked, the swapper chooses a process with the _____
a. Lowest Priority. b. Highest Priority. c. Medium priority d. No Priority.

370) In Batch processing system the memory allocator are also called as _____
a. Long – term scheduler b. Short – term scheduler

c. Medium – term scheduler d. Batch – term scheduler.

371) Wait until the desired sector of a disk comes under the R/W head as the disk rotates. This time Is called as _____
a. seek time b. latency time c. transmission time d. Read/Write time

372) All other processes wanting to enter their respective critical regions are kept waiting in a queue called as _____.
a. Ready queue. b. Waiting queue c. Semaphore queue. d. Critical queue.

373) There would be some time lost in turning attention from process 1 to process 2 is called as _____
a. Process transferring. b. Process switching c. Process turning. d. Context switching

374) Some operating system follows the technique of _____ in which you skip two sector and then number the sector (eg After starting from 0,you skip two sector and then number the sector as 1and so on…)
a. Leaving. b. Skipping. c. Interleaving. d. Jumping

375) An alternative to the scheme of DMA is called _____.
a. Programmed I/O. b. Mapped I/O. c. I/O Mapped I/o d. I/O Controller

376) The kernel has to keep track of all the pages frames in terms of whether they are free, and if not, the process to which they are allocated. This is done by maintaining another data structure called _____. a. Page Map Table (PMT). b. Page Frame Data Table (PFDT).
c. Page Table Entry (PTE). d. Disk Block Descriptor (DBD).

377) _____ processes tend to be faster, since they do not have to go to the kernel for every Rescheduling (Context switching).
a. heavyweight processes. b. Lightweight processes. c. Kernel processes. d. System processes

378) To know the name of the Shell program we use following command (Bourne Shell). a. $0 b. $1 c. $2 d. $9

379) To hold the exit status of the previous command _____ command is used.
a. $$ b. $? c. $/ d. $

380) To know the Process id of the current process _____ command is used. a. $$ b. $? c. $/ d. $

381) To know the path of the Shell ____ command is used.
a. PATH b. CDPATH c. SHELL d. PS1

382) To print a file in Linux which command is used
a. print b. ls –p c. lpr d. None

383) To create an additional link to an existing file, which command is used
a. ln b. sbln c. cp d. none

384) The Linux command "cp ch? book"
a. Copies all files starting with ch to the directory book
b. Copies all files with three-character names and starting with ch to the directory book
c. Compress whether a file starting with ch exists in the directory book
d. None of the above

385) . Command used in shell to read a line of data from terminals
a. rline b. line c. lread d. None of these

386) In vi, to change a word in command mode, one has to type
a. cw b. wc c. lw d. none

387) What would be the output of the following shell script?
foo=10 x=foo eval y='$'$x echo $y
a. foo b. 10 c. x d. $x

388) In the following shell script echo "Enter password" read pas while ["$pas" != "secrete"]; do echo "Sorry, try again" read
pas done exit 0
a. If the 'pas' matches with 'secrete' in /etc/passwd file then shell script exits.
b. The shell script gives error in while statement
c. Irrespective of the users input, it always prints "Sorry, try again"
d. If user enters secrete then shell script exits otherwise it will read pas once again

389) The output of the following shell script would be: for var in DAC August 2005 do echo $var echo " C-DAC " done
a. DAC August 2005 b. C-DAC C-DAC C-DAC
c. DAC C-DAC August C-DAC 2005 C-DA d. DAC C-DAC

390) . fun(){ echo "enter a number" read num num=$(($num+1)) echo "$num"
} fun exit 0
The above shell script
a. takes a number from user, increments it, and prints to the terminal.
b. prints "num" to terminal
c. gives error in the line fun (function call), because it should be written as fun()
d. exits without doing anything

391) The computer itself uses _____ language.
a. High level b. Natural c. Assembly **d. Machine**

392) Which of the following is not an operating system?
a. SuSE b. Unix **c. OSD** d. DOS

393) Object modules generated by assemblers may contain unresolved references. These are resolved using other objectmodules by the _____.
a. linker b. loader c. debugger d. compiler

394) Which of the following is not a necessary conditionfor a deadlock?
a. Mutual Exclusion b. Circular wait

c. No preemption of resources **d. None of the above**

395) An operating system is _____.
a. Integrated software b. CD-ROM software **c. System software** d. Application software

396) Match the operating system abstractions in the left column to the hardware components in the right column a. Thread
1. Interrupt Virtual Address Space
2. Memory File System
3. CPU Signal
4. Disk

a. a-2, b-4, c-3, d-1 b. **a-3, b-2, c-4, d-1** **c.** a-1, b-2, c-3, d-4 d. a-4, b-2, c-2, d-1

397) Which of the following file streams is not opened automatically in a UNIX program?
a. Standard terminal b. Standard input c. Standard output d. Standard error

398) Transfer of information to and from main memorytakes place in terms of _____.
a. Bytes b. Words c. Bits d. Nibbles

399) Virtual Memory _____.
a. is an extremely large main memory
b. is an extremely large secondary memory
c. is a type of memory used in supercomputers
d. **allows execution of processes that may notbe completely in memory**

400) Page fault occurs when _____.
a. The page is corrupted by application software b. The page is in main memory

c. The page is not in main memory d. One tries to divide a number by 0

401) An operating system with multiprogramming capability is one that_____.
a. allows several users to use the same program at once by giving each a slice of time
b. **loads several independent processes intomemory and switches the CPU from one jobto another as required**
c. runs programs over more than one processor
d. None of the above

402) Where does swap space reside?
a. Disk b. RAM c. ROM d. On-chip cache

403) A 1000 MB hard disk has 512-byte sectors. Each track on the disk has 1000 sectors. The number of tracks on the disk is _____.
a.1024 **b.2048** c.512 d.1000

404) Which of the following is not an advantage provided by shared libraries?
a. They save disk space
b. They save space in main memory
c. Multiple versions of the same library can be loaded into main memory
d. **None of the above**

405) Spooling is _____.
a. The rewinding of tapes after processing
b. **The temporary storage and management of output to printers and other output devices until they can cope with it**
c. The recording of all user activities in a log file
d. None of the above

406) One function of an operating system is to handleinterrupts. Interrupts are_____. a. a delay in processing due to operating system overload
b. messages received from other computers
c. **signals from hardware or software requesting attention from the operating system** d. None of the above

407) Which of the following is not a solution for the critical section problem?
a. Monitor b. Semaphore c. Critical Region construct **d. Segmentation**

408) . System calls are invoked by using _____.
a. Software interrupt b. Polling c. Indirect jump d. A privileged instruction

409) Paging is the transfer of pages between main memory and the _____.
a. Kernel b. Computer system **c. Auxiliary store** d. Output device

410) Which of the following commands is used to count the total number of lines, words and characters contained in a file?
a. count p **b. wc** c. wcount d.countw

411) The size of the virtual memory depends on the size of the _____.
a. Address bus b. Data bus c. Memory bus d. None of the above

412) What do you mean by computer interrupt?
a. **When a device has data to transfer it makesan interrupt. that means it needs your attention, the processor then stops what it isdoing and deals with the device**
b. The computer is interrupted by a signal fromspace saying it needs to close down theillegal application
c. when on word processor, if you type to muchthe computer makes an interrupt to let youthere is no more room to type
d. When someone tries to add to yourConversation

413) Multiprogramming systems_____.
a. Are easier to develop than singleprogramming systems
b. Execute each job faster
c. **Execute more jobs in the same time period**
d. Are used only one large mainframe Computers

414) The components that take data are located in the _____.
a. Input devices b. output devices c. system unit d. storage component

415) What is one of the advantages of Paging?
a. It does not suffer from internal fragmentation b. It does not suffer from spooling
c. It does not suffer from external fragmentation d. All of the above

416) The heart of any computer is processing the input in order to provide useful _____. a. Information b. Output c. Kernel d. Communication

417) Which of the following memory management schemes does not allow multiprogramming?3
a. Fixed partition b. Dynamic partition
c. Single-user contiguous scheme d. Relocatable dynamic partitions

418) . Which of the following is the correct way of calculating the address of the page frame? a. Multiply the page frame number by the page frame size

b. Divide the page frame size by the page frame number
c. Add the page frame number and the page frame size
d. Multiply the page frame number by the Displacement

419) Which of the following concept is best at preventing page faults? 3
a. Paging b. Hit ratios **c. The working set** d. Address location resolution 420) The total effect of all CPU cycles, from both I/O-bound and CPU-bound jobs, approximates which of the following distribution curves?
a. Gaussian distribution b. Poisson distribution c. Lorentzian Distribution d. Random Distribution

421) Which of the following storage allocation scheme results in the problem of fragmentation?
a. Contiguous storage b. Non-contiguous storage c. Indexed storage d. Direct storage

422) Which of the following commands in UNIX gives the user the capability of executing one program from another program?
a. nice b. fork c. exexv d. nohup

423) What does a cycle in a wait-for graph indicate?
a. Deadlock b. Preemptive c. Non-Preemptive d. None of the above

424) What kind of CPU burst an I/O-bound program would typically have?
a. Long **b. Short** c. Average d. All of the above

425) UNIX uses the _____ page replacement algorithm.
a. LRU b. MRU c. FCFS **d. FIFO**

426) The _____ command will display the absolute pathname for the directory that you are working in.
a. dir **b.pwd** c.ls d. whereami

427) . Which command would you use to create a sub-directory in your home directory? a. mkdir
b. dir c. cp d. rm

428) Which command can be used to display the contents of a file on the screen?
a.ls **b.cat** c. dog d. grep

429) What is the Process Input Queue?
a. A collection of processes
b. A collection of processes on the disk that have already executed
c. **A collection of processes on the disk that are waiting to be brought into memory for execution** d. Both 1 and 2

430) What is Swapping?
a. The process of moving a process within memory to and from the backing store
b. The process of moving a process within memory to backing store
c. The process of moving a process to memory
d. All of the above

431) Using the SJF algorithm, which process is allocated the CPU first?3
a. The process that requests the CPU first b. The process that requests the CPU last
c. The process with the smallest CPU execution time d. None of the above

432) Which of the following is not a scheduling algorithm?
a. First-Come First-Serve **b. Round Bear** c. Shortest Job First d. None of the above
433) Which process is allocated the CPU first in FCFS algorithm?
a. The process that requests the CPU first b. The process that requests the CPU last
c. Processes are allocated the CPU randomly d. None of the above

434) What will be the order when information is processed with direct access?
a. Any order b. Sequential order c. Non-sequential order d. None of the above

435) What will be the order when information is processed with sequential access?
a. Any order **b. Sequential order** c. Non-sequential order d. None of the above

436) A memory management technique used to improve computer performance is_____. a. Selecting memory chips based on their cost
b. Storing as much data as possible on disk
c. **Using the cache to store data that will most likely be needed soon**
d. Preventing data from being moved from the cache to primary memory

437) What do you mean by defragmentation?
a. keyboard that allows for a more naturalpositioning of your arms and hands.
b. The time it takes to read/write head to moveto a specific data track; one of the delaysassociated with reading or writingdata on acomputer disk drive.
c. Pointing device you can use instead of a mouse. These devices sense the position of your finger and then move the pointer accordingly.
d. **A utility that reduces the amount of fragmentation by physically organizing the contents of the disk to store the pieces of each file contiguously.**

438) . Which of the following memory management schemes optimizes fragmentation? a. Single-user contiguous scheme
b. Fixed partition

c. Dynamic partition
d. **Relocatable dynamic partitions**

441) The _____ is used to store the highest location in memory accessibleby each program.

442) _____ is the process of collecting fragments of available memory space into contiguous blocks by moving programs and data in a computer's memory or disk.

443) Which of the following are the disadvantages of a fixed partition scheme (choose all that apply)? a. **Requires that the entire program be loaded into memory**
b. **Requires that the entire program be stored contiguously**
c. **Requires that the entire program remain in memory until the job is completed**
d. Does not allow multiprogramming

444) The phenomenon of partial usage of fixed partitions and the coinciding creation of unused spaces within the partition is called _____

445) Computers use the _____ language to process data.
a. Processing b. kilobyte **c. Binary** d. Representational

446) Round-robin scheduling is _____.
a. Non- preemptive b. It depends **c. Preemptive** d. None of the above

447) Binary Semaphores are used for _____.
a. resource allocation b. critical sections c. mutual exclusion d. synchronization

448) What dispatcher does?
a. Select the process from the ready queue b. Run the process from the ready queue
c. Select and run the process from the ready queue d. None of the above

449) Which one is the correct statement regarding thread? a. Logical extension of the process.
b. Very similar to the process.
c. Threads have there own address space they do not use the process address space.
d. Threads share the same address space that is used by the process

450) During process execution, which state transaction,is not possible?
a. Ready state to running state b. Running state to block state
c. Block state to terminate state d. Block state to ready state

451) _____ signal generate when we try to access the illegal memory location using invalid pointer.

a. SIGSTOP b. SIGSEGV c. SIGTERM d. SIGNULL

452) Which Inter Process Communication mechanism is fastest to exchange the data between processes? a. PIPE b. FIFO c. Shared Memory d. Message Queue

453) Bootstrap loader is _____.
a. A program, which resides in the user space. b. A program, which resides in ROM.
c. A program, which resides in the RAM. d. A program, which is a module of the kernel space.

454) The page table entry contains _____.
a. the information regarding given page is valid or not.
b. the information regarding given segment is valid or not.
c. the information regarding given page table is valid or not.
d. All of the above

455) POSIX pthread library implementation in Linux schedules _____
a. user threads without the help of the kernel. b. user threads with the help of light weight process.
c. user threads with the help of the kernel. d. user threads with the help of heavy weight process.

456) Segmentation leads to _____.
a. External Fragmentation b. Internal Fragmentation c. Both 1 and 2 d. All of the above

457) In static priority based scheduling _____.
a. Priorities are decided at the time of the design and not changed during execution.
b. Priorities are decided at the time of design and may be changed during execution by APIs.
c. Priorities are decided by the scheduler during execution.
d. All of the above

458) Paging leads to _____.

459) a. Internal Fragmentation b. External Fragmentation c. Both 1 and 2 d. All of the above

460) Conventional RTOS uses _____
a. only kernel space. b. only user space.
c. may be user space and kernel space. d. None of the above

461) With any Disk Scheduling Algorithms, Performance depends on _____.
a. Number of requests b. Number and types of requests
c. Types of requests d. None of the above

462) How can we get the information about the CPU onthe Linux system?
a. cat /usr/cpuinfo **b. cat /proc/cpuinfo** c. cat /root/proc/cpuinfo d. cat /root/usr/cpuinfo

463) Which is the Linux kernel image file from thefollowing and what is location in the file system? a. kimage and location is /boot b. kernelimage and location is /usr
c. vmliunz and location is /boot d. kimage and location is /usr

464) inode number represents _____.
a. the directory on the file system uniquely. **b. all types of files on the file system uniquely.**
c. all process running on the system. d. use of the inode in the file system.

465) Which one is default shell for the Linux?
a. csh b. tcsh c. ksh d**. bash**

466) Which statement is true?
a. Process is a passive entity
b. We cannot divide process in further threads.
c. **Process is an active instance of the program.**
d. Threads do not use the memory spaceprovided by the process.

467) Which module gives control of the CPU to the process selected by the short-term scheduler?
a. none of the mentioned b. interrupt c. **dispatcher** d. scheduler

468) The interval from the time of submission of a process to the time of completion is termed as
a. **turnaround time** b. waiting time c. response time d. throughput

469) In priority scheduling algorithm a. none of the mentioned
b. equal priority processes can not be scheduled
c. **CPU is allocated to the process with highest priority**
d. CPU is allocated to the process with lowest priority

470) Time quantum is defined in
a. priority scheduling algorithm b. **round robin scheduling algorithm**
b. multilevel queue scheduling algorithm d. shortest job scheduling algorithm

471) Which one of the following can not be scheduled by the kernel?
a. none of the mentioned b. process c. kernel level thread d. **user level thread**

472) The two steps of a process execution are : (choose two)
a. OS Burst b. Memory Burst c. **I/O Burst** d. **CPU Burst**

473) Turnaround time is :
a. the total time spent in the ready queue
b. the total time spent in the running queue
c. the total waiting time for a process to finish execution
d. **the total time from the completion till the submission of a process**

474) Complex scheduling algorithms :
a. **are very appropriate for very large computers**
b. use minimal resources
c. use many resources
d. All of these

475) The FIFO algorithm :
a. first executes the job that needs minimal processor
b. first executes the job that has maximum processor needs
c. **first executes the job that came in first in the queue**
d. first executes the job that came in last in the queue

476) The offset 'd' of the logical address must be :
a. **between 0 and segment limit** b. greater than segment limit
c. greater than the segment number d. between 0 and the segment number

477) The address of a page table in memory is pointed by
a. page register b. program counter c**. page table base register** d. stack pointer

478) The page table contains
a. page size b. none of the mentioned
c. page offset **d. base address of each page in physical memory**

479) In contiguous memory allocation : a.
None of these
b. **each process is contained in a single contiguous section of memory**
c. the memory space is contiguous
d. all processes are contained in a single contiguous section of memory

480) The operating system and the other processes are protected from being modified by an already running process because :
a. they are in different logical addresses
b. they are in different memory spaces
c. they have a protection algorithm
d. **every address generated by the CPU is being checked against the relocation and limit registers**

481) When memory is divided into several fixed sized partitions, each partition may contain _____. a. multiple processes at once b. None of these
c. **exactly one process** d. atleast one process

482) In internal fragmentation, memory is internal to a partition and :
a. is being used b. None of these c. **is not being used** d. is always used

483) Another solution to the problem of external fragmentation problem is to : a. All of these
b. permit larger processes to be allocated memory at last
c. permit smaller processes to be allocated memory at last
d. **permit the logical address space of a process to be noncontiguous**

484) _____ is generally faster than _____ and _____.
a. **first fit, best fit, worst fit** b. worst fit, best fit, first fit
c. None of these d. best fit, first fit, worst fit

485) External fragmentation exists when :
a. A request cannot be satisfied even when the total memory is free
b. **Enough total memory exists to satisfy a request but it is not contiguous**
c. None of these
d. The total memory is insufficient to satisfy a request

486) Physical memory is broken into fixed-sized blocks called _____.
a. pages b. None of these c. **frames** d. backing store

487) Every address generated by the CPU is divided into two parts : (choose two)
a. frame bit b. **page offset** c. **page number** d. frame offset

488) The _____ table contains the base address of each page in physical memory.
a. **page** b. process c. frame d. memory

489) With paging there is no _____ fragmentation.
a. None of these b. internal c. either type of d. **external**

490) The page table registers should be built with _____.
a. very low speed logic b. None of these
b. **very high speed logic** d. a large memory space

491) What is operating system?

a. **system service provider to the application programs**
b. link to interface the hardware and application programs
c. all of the mentioned
d. collection of programs that manages hardware resources

492) Which one of the following is not true?
a. kernel is the program that constitutes the central core of the operating system
b. kernel is the first part of operating system to load into memory during booting
c. kernel remains in the memory during the entire computer session
d. **kernel is made of various modules which can not be loaded in running operating system**

493) Which one of the following error will be handle by the operating system? a. lack of paper in printer b. power failure
c. connection failure in the network d. **all of the mentioned**

494) The main function of the command interpreter is a. to handle the files in operating system
b. none of the mentioned
c. **to get and execute the next user-specified command**
d. to provide the interface between the API and application program

495) By operating system, the resource management can be done via
a. space division multiplexing b. none of the mentioned
b. both (a) and (b) d. time division multiplexing

496) If a process fails, most operating system write the error information to a
a. new file b. **log file** c. none of the mentioned d. another running process

497) Which facility dynamically adds probes to a running system, both in user processes and in the kernel?
a. DAdd b. DLocate c. **DTrace** d. DMap

498) Which one of the following is not a real time operating system?
a. RTLinux b. VxWorks c. **Palm OS** d. Windows CE

499) The OS X has
a. **hybrid kernel** b. monolithic kernel
c. monolithic kernel with modules d. microkernel

500) The systems which allows only one process execution at a time, are called
a. **uniprogramming systems** b. uniprocessing systems

c. unitasking systems d. none of the mentioned

501) In operating system, each process has its own a. address space and global variables
b. open files
c. pending alarms, signals and signal handlers
d. **all of the mentioned**

502) A process can be terminated due to
a. killed by another process b. **all of the mentioned** c. fatal error d. normal exit

503) What is the ready state of a process?
a. when process is unable to run until some task has been completed
b. **when process is scheduled to run after some execution**
c. when process is using the CPU
d. none of the mentioned

504) The address of the next instruction to be executed by the current process is provided by the
a. process stack b. **program counter** c. pipe d. CPU registers

505) The number of processes completed per unit time is known as _____.
a. **Throughput** b. Efficiency c. Output d. Capacity

506) The state of a process is defined by : a. **the current activity of the process** b. the activity to next be executed by the process
c. the activity just executed by the process
d. the final activity of the process

507) Which of the following is not the state of a process ?
a. New b. Waiting c. Ready d. Terminated **e. Old**

508) The entry of all the PCBs of the current processes is in :
a. Process Register b. Process Unit c. Program Counter d. **Process Table**

509) In a programmed input/output(PIO) :
a. the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
b. the CPU receives an interrupt when the device is ready for the next byte
c. the CPU runs a user written code and does accordingly
d. **the CPU uses polling to watch the control bit constantly, looping to see if device is ready**

510) Fragmentation is

a. fragments of memory words unused in a page
b. fragments of memory words used in a page
c. dividing the main memory into equal-sized fragments
d. dividing the secondary memory into equal sized fragments

511) 516. Critical region is
a. the portion of the main memory which can be accessed only by one process at a time
b. a part of the operating system which is not allowed to be accessed by any process
c. **a set of instructions that access common shared resource which exclude one another in time** d. none of the above

512) In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the RUNNING state to the
a. READY state b. BLOCKED state c. TERMINATED state d. SUSPENDED state

513) Pre-emptive scheduling, is the strategy of temporarily suspending a running process
a. when it requests (I/O) b. to allow starving processes to run
c. before the CPU time slice expires d. none of the above

514) Some computer systems support dual mode operation—the user mode and the supervisor or monitor mode. These refer to the modes
a. of memory access
b. by which user programs handle their data
c. by which the operating system executes user programs
d. **in which the processor and the associated hardware operate**

515) In Round Robin CPU scheduling, as the time quantum is increased, the average turn around
a. remains constant **b. varies irregularly** c. increases d. decrease

516) .Suppose that a process is in 'BLOCKED' state waiting for some I/O service. When the service is completed, it goes to the
a. RUNNING state **b.READY state** c. SUSPENDED state d. TERMINATED state

517) To obtain better memory utilization, dynamic loading is used. With dynamic loading a routine is not loaded until it is called for. For implementing dynamic loading,
a. special support from operating system is essential
b. special support from hardware is essential
c. special support from both hardware and operating system are essential
d. **user programs can implement dynamic loading without any special support from the operating system or the hardware.**

518) Semaphores are used to solve the problem of
a. race condition b. mutual exclusion c. process synchronization **d. Both (B) and (C)**

519) Dijkstra's banking algorithm in an operating system solves the problem of
a. mutual exclusion b. context switching **c. deadlock avoidance** d. deadlock recovery

520) Virtual memory is
a. an extremely large main memory b. an extremely large secondary memory
c. a type of memory used in super computers **d. an illusion of an extremely large memory**

521) 526. Overlay is
a. a specific memory location
b. a part of an operating system
c. overloading the system with many user files
d. **a single contiguous memory that was used in the olden days for running large programs by swapping.**

522) The only state transition that is initiated by the user process itself is
a. block b. wakeup c. dispatch d. none of the above

523) Kernel is
a. the software which monitors the operating system
b. **the set of primitive functions upon which the rest of operating system functions are built up**
c. considered as the critical part of the operating system
d. none of the above

524) Sector interleaving in disks is done by
a. the operating system b. the disk manufacturer
c. the disk controller cord d. none of the above

525) Dirty bit is used to show the a.
wrong page in the memory
b. page with corrupted data
c. page that is less frequently accessed
d. **page that is modified after being loaded into cache memory**

526) The first-fit, and the worst-fit algorithm can be used for
a. linked allocation of memory b. indexed allocation of memory
c. contiguous allocation of memory d. all of the above

527) In a paged memory, the page hit ratio is 0.35. The time required to access a page in secondary memory is equal to 100 ns. The time required to access a page in primary memory is 10 ns. The average time required to access a page is

a. 3.0 ns b. 68.0 ns **c. 68.5 ns** d. 78.5 ns

528) In a multi-user operating system, 20 requests are made to use a particular resource per hour on an average. The probability that no requests are made in 45 minutes is

a. e-15 b. e-5 c. 1 - e-5 **d. 1 – e-10**

529) Disk scheduling involves deciding

a. which disk should be accessed next
b. **the order in which disk access requests must be serviced**
c. the physical location where files should be accessed in the disk
d. none of the above

530) In a multiprogramming environment

a. more than one process resides in the memory
b. the programs are developed by more than one person
c. the processor executes more than one process at a time
d. a single user can execute many programs at the same time

531) In which of the following directory systems, is it possible to have multiple complete paths for a file starting from the root directory?

a. Single level directory b. Two level directory
c. Tree structured directory **d. Acyclic graph directory**

532) Which of the following is true?

a. The linkage editor links object modules during compiling or assembling.
b. **The linkage editor links object modules and resolves external references between them before loading.**
c. The linkage editor resolves external references between the object modules during execution time.
d. The linkage editor is used to edit programs which have to be later linked together.

533) Fence register is used for

a. file protection b. CPU protection **c. memory protection** d. all of the above

534) If the property of locality of reference is well pronounced in a program a. the number of page faults will be more

b. the number of page faults will be less
c. execution will be faster
d. **Both (B) and (C)**

535) With a single resource, deadlock occurs
a. if there are only two processes competing for that resource
b. if there is a single process competing for that resource
c. if there are more than two processes competing for that resource
d. **none of the above**

536) Supervisor call
a. is a call with control functions
b. is a call made by the supervisor of the system
c. **are privileged calls that are used to perform resource management functions, which are controlled by the operating system.**
d. is a call made by someone working in root directory

537) Working set (t, k) at an instant of time, t, is the set of a. k references with high frequency
b. **pages that have been referenced in the last k time units**
c. k future references that the operating system will make
d. future references that the operating system will make in the next 'k' time units

538) Concurrent processes are processes that **a. overlap in time**
b. do not overlap in time
c. are executed by a processor at the same time
d. none of the above

539) In paged memory systems, if the page size is increased, then the internal fragmentation generally **a. becomes more** b. becomes less c. remains constant d. none of the above

540) Which of the following is an example of a SPOOLED device?
a. The secondary memory device in a virtual memory system.
b. **A line printer used to print the output of a number of jobs.**
c. The terminal used to enter the input data for a program being executed. d. None of the above

541) The page replacement policy that sometimes leads to more page faults when the size of the memory is increased is
a. FIFO b. LRU c. no such policy exists d. none of the above

542) An operating system contains 3 user processes each requiring 2 units of resource R. The minimum number of units of R such that no deadlock will ever occur is
a. 3 **b. 4** c. 5 d. 8

543) At a particular time of computation, the value of a counting semaphore is 7. Then 20 P operations and 'x' V operations were completed on this semaphore. If the final value of the semaphore is 5. x will be
a. 15 b. 22 **c. 18** d. 14

544) Memory protection is of no use in a
a. single user system b. non-multitasking system
c. non-multiprogramming system **d. none of the above**

545) Which of the following are single-user operating systems?
a. MS-DOS b. UNIX c. XENIX **d. Both (A) and (C)**

546) The size of the virtual memory depends on the size of the
a. address bus b. data bus c. main memory d. none of the above

547) A computer system has 6 tape drives, with 'n' processes competing for them. Each process may need 3 drives. The maximum value of 'n' for which the system is guaranteed to be deadlock free is
a. 1 **b. 2** c. 3 d 4

548) Which of the following are true?
a. Re-entrant procedures can be called recursively.
b. Re-entrant procedures cannot be called recursively.
c. A re-entrant procedure can be called even before the procedure has not returned from its previous call.
d. Both (A) and (C) are true

549) In a system that not support swapping
a. the loader binds relocatable addresses to physical addresses.
b. the compiler normally binds symbolic addresses to physical addresses.
c. the compiler normally binds symbolic addresses (variables) to relocatable addresses. **d. Both (A) and (C)**

550) Spatial locality refers to the problem that once a location is referenced
a. it Will referenced again b. it will not be referenced again
c. a nearby location will be referenced soon d. none of the above

551) Page fault occurs when
a. the page is in main memory **b the page is not in main memory**
c. one tries to divide a number by 0 d. the page is corrupted by application software

552) Determine the number of page faults when references to pages in the order - 1, 2, 4, 5, 2, 1, 2, 4. Assume that the main memory can accommodate 3 pages and the main memory already has the pages 1 and 2, with page 1 having been brought earlier than page 2, (Assume LRU algorithm is used)
a. 3 b. 5 **c. 4** d. none of the above

553) Which of the following are real-time systems?
a. An on-line railway reservation system b. A process control system
c. Aircraft control system **d. Both (B) and (C)**

554) Necessary conditions for deadlock are a.
Non-preemption and circular wait
b. Mutual exclusion and partial allocation
c. **Both (a) and (b)**
d. None of the above

555) At a particular time, the value of a counting semaphore is 10. It will become 7 after
a.3 V operations b. 3 P operations
c. 13 P operations and 10 V operations **d. Both (B) and (C)**

556) Mutual exclusion problem occurs
a. among processes that share resources
b. between two disjoint processes that do not interact
c. among processes that do not use the same resource
d. none of the above

557) Which of the following.is a service not supported by the operating system?
a. I/O operation **b. Compilation** c. Accounting d. Protection

558) A state is safe if the system can allocate resources to each process (up to its maximum) in some order and still avoid deadlock. Which of the following are true?
a. Deadlocked state is unsafe.
b. Deadlocked state is a subset of unsafe state.
c. Unsafe state may lead to a deadlock situation.
d. **All are true.**

559) In which of the following scheduling policies does context switching never take place?
a. Round-robin b. Shortest job first c. First-cum-first-served **d. Both (B) and (C)**

560) What do the following Abbreviations stand for?
HRQ=
a. FAT= file allocation table. b. PCB= process control block
c. LWP=light weight process d. DMA=direct memory access.

561) Which of the following is a non-preemptive O.S.?
a. UNIX b. Windows 95 c. Windows NT **d. None**

562) The following is not a form of IPC
a. Semaphore b. Pipe c. Shared memory **d. Buffering**

563) The fol. is a part of FAT
a. Sector info b. Disk type c. Modified info d. Date info

564) Device files in UNIX are
a. Device drivers b. Special files c. Pipes d. Unstructured files

565) The time of admission of a job to ready queue to completion is :
a. Turnaround time b. Burst time c. Response time

566) The fol. Signal is sent by the DMA controller :
a. HREQ b. HLDA c. DRQ

567) The main purpose(s) of an Operating System is/are:
a. convenience for the user b. efficient operation of the computer system
c. optimal use of computing resources **d. All of the above**

568) The signal the keyboard sends to the computer is a special kind of message called ___.
a. keyboard request b. keyboard controller c. interrupt controller **d. interrupt request**

569) The available routing schemes are :
a. fixed routing b. virtual routing c. dynamic routing

570) The interval from the time of submission of a process to the time of completion is _____.
a. Turnaround time b. Waiting time **c. Response time**

571) The I/O subsystem consist of:
a. A memory management component including buffering, caching, and spooling
b. A general device-driver interface
b. Drivers for specific hardware devices
a. All of the above

572) Which of the following CPU scheduling algorithmswill prevent starvation problem?
a. Shortest-job-first b. Priority-scheduling
c. Priorit echanism y-scheduling with aging d. None of the above

573) Which of the following statements is true for a deadlock state a.
The system cannot run any process
b. The system can run processes barring those involved in the deadlock
c. A running process cannot request any new resourced.
d. All processes in the ready queue enter the wait queu

574) The problem of thrashing may be reduced by
a. Using prepaging mechanism b. Writing well structured programs
c. Both 1 and 2 d. Neither 1 nor 2

575) Which of the following statements is not true?
a. A directory is a special type of file b. A directory is used to store file attributes
c. A directory is used to store file data d. A directory is used to store file access information

576) . Biometric devices are used for user authentication in
a. Proof by knowlege method b. Challenge response method
c. Proof by possession method d. Proof by property method

577) A file system uses the contiguous space allocation mechanism for disk space allocation. For better utilization of disk space, this file system must use
a. A garbage collection mechanism b. A disk compaction mechanism
c. A linked-block allocation mechanism d. An indexed-block allocation mechanism

578) Which of the following statements is true?
a. A computer virus is a complete program that makes active attacks
b. A computer virus is a program segment that makes passive attacks
c. A logic bomb is a program segment that makes passive attacks
d. A logic bomb is a program that makes active attacks

579) The purpose of virtual memory system is to a.
Allow multiprocessing
b. Allow multiprogramming
c. Allow batch processing
d. Allow execution of a program that requires larger memory than the size of the physical main memory

580) Which of the following is NOT a part of a process control block:
a. Values of CPU registers b. CPU scheduling information
c. Memory limits of the process d. List of files accessible to the process.

581) Suppose the architecture of a computer system is layered into the following four layers –
a. Operating systems software b. users' applications software
c. hardware d. programming environment software

582) Which of the following is a logical sequence of the four layers from bottom to top?
a. 1, 2, 3, 4 b. 1, 3, 4, 2 c. 3, 1, 4, 2 d. 3, 4, 1, 2

583) A Job Control Language is used for
a. telling the system about a job's resource requirements
b. telling the system administrator / operator about job's resource requirements.
c. telling the programmer how to program the resource requirements of a job. d. none of the above

584) Which was the first processor to introduce protected mode?
a) 8086 b) 80286 c) 80386 d) 80486

585) The protected mode is necessary for –
a. multi-tasking system b. multi-user system c. both a and b d. 16 bit programming

586) The segmented memory is provided mainly.
a. for higher speeds b.to maintain compatibility with old processors
c. for ease of application programming d. simple hardware

587) Which of the following features is NOT found in RISC architectures?
a. A limited instruction set b. A large number of registers
c. Virtual memory d. A large number of execution modes

588) The first CPU with P6 architecture was –
a. Pentium b. Pentium Pro c. Pentium II d. Pentium III

589) The fastest storage element is –
a. CD-ROM b. DRAM c. EDO-DRAM d. SDRAM

590) Which peripheral requires the highest data transfer rate?
a. Sound Card b. Network card c. Hard disk d. Graphics Adapter

591) A virtual memory is required for -
a. increasing the speed
b. increasing the addressing modes
c. overcoming the size limitation of main memory
d. overcoming the size limitation of cache memory

592) When fork( ) is given
a. It creates a child process b. Allocates slot in process table
c. Returns 0 to parent & ID to child d. All of the above

593) A TSR is a program which will
a. Be resident in the memory after termination of program
b. Be called as and when the program is executed
c. Terminate and Soon Remove the program from the memory
d. All of the above

594) CPU performance is based on
a. ALU width b. Clock speed **c. Number of instructions executed per second**

595) In the systems which do not have multiple CPUs, is the 'cache coherency' an issue while design? a. Yes b. No

596) 80286 the addressing scheme is _____ addressing c
a. 8 bit b. 16 bit c. **24 bit `** **d.**28 bite. 32 bit

597) Shell executes $0 and returns the
a. Parameters entered in the command line b. Program name c. All of the above

598) Profile file is present in
a. /usr b. /usr/user1 c. /etc/admin d. None of the above

599) Peak Bandwidth of a 64-bit, 33 MHz based PCI bus would be:
a. 133 MB/s b. 266 MB/s c. 512 MB/s d. 33 MB/s

600) Main advantage of EISA bus over micro-channel bus was:
a. It offered more bandwidth over micro-channel b. It had software configurable devices
c. It was backward compatible with ISA d. It made the existing peripherals run faster.

601) Which of the following devices is asynchronous?
a. SSRAM b. EPROM c. Disk controllers d. All of the above.

602) Which of the following operating systems is available for non-intel platforms?
a. Windows-NT b. Solaris c. linux d. all of the above.

603) Cache memory refers to _____.
a. cheap memory that can be plugged into the mother board to expand main memory
b. **fast memory present on the processor chip that is used to store recently accessed data**
c. a reserved portion of main memory used to save important data
d. a special area of memory on the chip that is used to save frequently used constants

Fill in the blanks:

1) Single system image is obtained in case of _____

2) Turnaround Time refers to _____.

3) Short-term Scheduler or CPU-Scheduler_____ scheduler selects the process that is ready to execute to CPU.

4) Banker's algorithm is an example of _Deadlock___ avoidance.

5) _____ is an example of Distributed operating system.

6) _Round Robin_ is an example of timesharing scheduling policy.

7) _____is an example of shareable resource and _____ is an example for non shareable resource.
FIFO and _Optimum page replacement algorithm_ are the popular page replacement algorithms.

8) _____ is to NT , where as _____ is to DOS and _____ is to UNIX.

9) Give the expansion of the following with reference to the operating systems concepts: FCB is

10) _____IOCS is _____

11) Throughput in case of multiprogramming is Number of programs processed by it per unit time _.

12) _____is process of modifying the addresses used in the address sensitive

13) A program is a Passive entity , whereas a process is a Active entity.

14) Mutex is a _Binary__Semaphore.

15) _____ is the coincidence of high paging traffic and low CPU utilization.

16) FCFS stands for __First Come First Served__.

17) The Scheduling policy in case of a batch processing system is

18) _____.

19) Multiprogramming degenerates to _____ system if there is no proper mix of CPU and I/O bound jobs.

20) DMA stands for _ direct memory access __

21) Protection of memory is ensured using _____ and _____.

22) _____ is forceful deallocation of a resource.

23) SPOOLING stands for simultaneous peripheral operations on-line

24) A _____ operating system is an operating system which requires a timely response from a computer system.

25) _____ is a program in execution.

26) DOS is an example of _____ user system.

27) Unix is an example of _____ user system.

28) Unix uses _____ scheduling policy .

29) _____ and _____ are the goals of an operating system.

30) _____ is a distributed operating system.

31) The _____ determines which process is to be executed next.

32) PSW stands for Pogram Status Word

33) Mutex is an acronym for Abbrevations

34) A tape is a Magnetic device.

35) Single system image is obtained in case of _____

36) Turnaround Time refers to _____.

37) Short-term Scheduler or CPU-Scheduler scheduler selects the process that is ready to execute to CPU.
38) _____ is an example of Distributed operating system.

39) Round Robin is an example of timesharing scheduling policy.

40) _____is an example of shareable resource and _____ is an example for nonshareable resource.

41) _____ and _____ are the popular page replacement algorithms.

42) Unix is a _____, _____, and _____ operating system.

43) Single system image is obtained in case of _____ 44) Turn around Time refers to _____.

45) Short-term Scheduler or CPU-Scheduler scheduler selects the process that is ready to execute to CPU.
46) Banker's algorithm is an example of _ Deadlock___ avoidance.
47) _____ and _____ are the popular page replacement algorithms.

48) A file is anything held on _____ storage.

49) Compaction is done when you have _____ fragmentation.

50) _____ is when more time is spent in paging than in actually running programs.

51) A thread is a Lightweight process.

52) The process of loading the OS into main memory is done by the _____.

53) The motivations behind networks are _____, _____, _____ & _____.
54) NRU stands for _____ and LRU stands forLeast Recently used .

55) SPOOLING stands for simultaneous peripheral operations on-line

56) Thrashing is the coincidence of high paging traffic and low CPU utilization.

57) _____ is a path under execution.

58) The OS maintains information about each process in a record called _____ .

59) _____ is a relation between number of page faults and number of page frames allocated to a process.

60) _____is the implementation method in case of MS-DOS for non-contiguous allocation.

61) _____ is a mechanism whereby the output of one process is directed into input of another process.

62) The time elapsed for position of Read/Write head under the desired sector is called _____ .

63) _____ , _____ are the two ways to achieve relocation and address translation.

64) The CPU utilization is low when the system is _____.

65) A space allocated in units of fixed size is called _____ .

66) A modified page is also called as _____ page.

67) _____is an example of shareable resource and _____ is an example for nonshareable resource.

68) _____ is forceful deallocationof a resource.

69) Unix is an example of _____user system.

70) The _____ determines which process is to be executed next.

A process can change its state from block state to run state. Is this statement True or False? 1) Differentiate between the CPU bound process and I/O bound process.

2) Can we prevent deadlocks by denying mutual-exclusion condition? Justify your answer.
3) What do you mean by locality of reference?
4) What is a dirty bit? Why is it used?
5) What is the difference between circuit switching and packet switching?
6) Justify the statement :
7) "It is possible to support multiprogramming without using timesharing. However it is impractical to support timesharing without using multiprogramming"
8) "Swapping improves/degrades the efficiency of system utilization".
9) Describe the cause of READYÅ RUNNING transition.
10) What do you mean by "protection" incase of operating systems? How is it implemented?
11) What is Access Control List? Where is it used?
12) What is a deadlock? How does it occur?
13) What do you mean by scalability?
14) What is a capability list? Where is it used?
15) Comment on the statement:
16) "Interactive processes should have low/high priority"
17) Name secondary storage devices and explain where they are typically used.
18) Which type of scheduler controls the degree of multiprogramming?
19) What is a race condition?
20) Which condition(s) is/are very necessary for a deadlock. Justify your answer.
21) What do you mean by a "kernel"?
22) What do you mean by the "context" of a process?

23) Give one difference between a .COM file and .EXE file in DOS.
24) Name the necessary conditions for a deadlock.
25) What is a critical section?
26) What is IOCS? What are it functions?
27) Explain advantages of distributed operating systems:
28) Name different scheduling policies and explain.
29) Differentiate between the logical address space and physical address space.
30) Explain in brief what you mean by: 1.Multiprogramming 2.Multiprocessing.
31) Name the five typical file operations.
32) Draw a block diagram showing the process transitions.
33) Can we prevent deadlocks by denying mutual-exclusion condition? Justify your answer.
34) How many different types of files are possible on UNIX operating system ?
35) Name them.
36) What is demand paging?
37) Explain Distributed processing with the help of examples.
38) Differentiate between contiguous and non-contiguous memory allocation.
39) What Is deadlock? Give an example.

Explain the following:

1) Semaphores
2) Disk caching
3) Working set
4) Locality of reference
5) DMA
6) Non-preemptive OS

Long answer Questions:

1) Consider a memory with 4 page frames, assuming that pages of a process are referenced in the following order:
2) 4,3, 2,1,4,3,5,4,3,2,1,5,2.
3) Show, which would be better FIFO or LRU.
4) Considering the above reference string show how Belady's anomaly occurs in case of FIFO.
5) How is memory re-used?
6) With the help of an example show the mapping from virtual address space to physical address space in case of virtual memory.
7) List the fields of the FCB and explain their use.
8) What is the difference between thread, process and Task?
9) What is the critical section problem? How is it handled?
10) Which condition(s) is/are very necessary for a deadlock? Justify your answer.
11) Discuss the use of Active file tables.
12) What constitutes the environment of a process?
13) What do you mean by "static and dynamic binding"?

14) What do you mean by an Inode? Where is it used?
15) How can a deadlock be avoided? Explain.
16) Write in detail the methods of LRU implementation.
17) Explain State Transition Diagram.
18) What is Inter-process communication?
19) Define the terms: Thread; process; Context of a process.
20) Describe the PC architecture with a block diagram
21) Discuss the various issues involved in Process Management

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1. In use-case diagram, what is system illustrated by?

a) Oval **b) Box** c) Circle d) Triangle

2. UML supports _____ phases of software development

a) Earlier b) Final c) Middle **d) All**

3. Requirement analysis _____

a) Delivers a system in a series of versions
b) Organizes abstraction
c) **Builds a bridge between user and developer**
d) Uses experimental software to better understand user requirements

4. What is type of software maintenance?

a) Adaptive b) Corrective c) Perfective **d) Obsolescence**

5. Which of the following activities of SDLC involves choosing a system structure capable of satisfying requirement specification?
   a) Requirement analysis **b) Design** c) Coding d) Testing

6. Pick up the odd one out of the following
a) Data flow diagram **b) Object identification**
c) Structural decomposition d) E-R diagrams

7. ---------- Lifecycle model describe how software system should be developed and describe how software are actually developed.
a) Prescriptive & Descriptive b) Prescriptive & Definitive
c) Descriptive & Prescriptive d) Descriptive & Intuitive

8. The requirement phase consist of
A) Problem analysis B) Requirement specification
C) Requirement validation D) Problem validation
a) A, B, C **b) A, B, C, D** c) A, B, D d) A, C, D

9. _____ is a method for estimating the software
a) COCOMO b) Function Point Analysis c) Use Case Estimation **d) All of the above**

10. The elements of the software architecture of a computing system include
1) Software components
2) Class diagrams
3) Connectors expressing relationships between software components
4) entity relationship diagrams
a) 1 & 2 **b) 1 & 3** c) 1, 3 & 4 d) 1, 2, 3 & 4

11. Ability of a software to perform intended function with minimum consumption of computing resources
a) Efficiency b) Robustness c) Reliability d) Correctness

12. Ability to deal with exceptional conditions e.g. invalid input, improper handling, power failure, disk crash etc.
a) Efficiency **b) Robustness** c) Reliability d) Correctness

13. The type of testing carried out along with coding is called
a) System testing **b) Unit testing** c) Pretesting d) Stress testing

14. Maintainability is the ease with which a software can
a) Be corrected if an error is encountered
b) Adapted if its environment changes
c) Enhanced if the customer desires a change in requirements d) **All of above**

15. The type of software maintenance which is done to remove bugs or defects in the software is called

a) Corrective Maintenance b) Adaptive Maintenance
c) Regressive Maintenance d) Perfective Maintenance

16. RAD stands for
a) Rapid Application Development b) Random Access Disc
c) Random Application Driver d) Rapid Alignment Disc

17. Which of the following is not true about Component Assembly Model
a) It is similar to the Spiral Model
b) The technical framework for this model is provided by object technologies
c) Candidate classes are extracted from class library or developed
d) **Its productivity is low**

18. Which of the following is not true about the context diagram?
a) It does not show details of the functioning b) It shows major inputs & outputs of the system
c) It shows the external entities of the system **c) It shows the data stores of the system**

19. Data Items in a data dictionary are description of
a) Input data b) Data flows c) Data stores **d) All of the above**

20. The ways of describing specifications at different levels of detail include
a) Requirements definition b) Requirements specification
c) Both a and b options d) None of these options

21. Stable requirements are
a) Requirements related to the core activities of software customer
b) Requirements which are dependent on the environment where the delivered system is to be used
c) Both a and b options
d) None of these options

22. Functional Independence is not achieved by
a) Coupling b) Modularity c) Information Hiding d) Any of the above

23. If two modules are coupled without exchange of data or control information then they exhibit
a) Normal Coupling b) Stamp Coupling c) Control Coupling d) Common Coupling

24. Which of the following is a graphical tool for software design?
a) Data Flow Diagram b) Structure Chart c) Decision Tree **d) All of the above**

25. Changes made to the software to correct defects uncovered after delivery is called
a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance **d) Corrective maintenance**

26. Arrange the following in the correct sequence of software estimation a. Schedule Estimation b. Effort
Estimation c. Cost Estimation d. Size estimation

a) B, C, A, D b) C, A, B, D **c) D, B, A, C** d) A, C, D, B

27. Final Function point count calculated for project will result in the smallest LOC if implemented in

a) Assembly b) C c) C++ **d) Visual Basic**

28. Project schedule can be illustrated using

a) DFD and ERD b) Bar chart c) Activity chart **d) Both b and c options**

29. Most of the project plans should include

a) Risk analysis b) Project organization c) Project schedule **d) All of the above**

30. _____ shows the dependencies between the different activities making up a project.

a) PERT chart b) Bar chart c) Staffing Plan d) Pi chart

31. Chief Programmer Teams are suitable for projects

a) With research orientation **b) With high modularity**
c) With high creativity d) None of these

32. Judging the seriousness of a risk by evaluating its probability along with its consequences is called

a) Risk analysis b) Risk Projection c) Risk Estimation **d) All of the above**

33. The RMMM plan is generally included in the

a) Feasibility Study **b) Project Plan** c) SRS Document d) Project Legacy

34. Invalid data Rect() puts WM_PAINT message in message queue.

a) True b) False c) Not Always

35. Update Window() paints the client area.

a) True b) False c) Not Always

36. HINSTANCE type variable stores id of running application

a) True b) False c) Not Always

37. The WM_INITDIALOG message is sent to the dialog box procedure immediately before a dialog box is is played.

a) True b) False c) Not Always

38. Send Message is not directly send to the window procedure.

a) True b) False c) Not Always

39. Icon is a Text resource.

a) True **b) False** c) Not Always

40. Sub classing means changing the behaviour of controls.
a) True b) False c) Not Always

41. CALLBACK functions are called by the operating systems.
a) True b) False c) Not Always

42. WINAPI is not related to calling conventions.
a) True **b) False** c) Not Always

43. Which of the following operations is provided by a common dialog box?
a) Choosing an ic b) Choosing a network drive.
c) Choosing a database. d) Choosing a font.

44. What is the primary difference between Send Message and Post Message?
a) Send Message is used for local queues, while Post Message issued for remote queues.
b) Send Message can only be used within a worker thread, while Post Message can be used at any time.
C) Send Message can only send messages to the application thread, while Post Message can send messages to any thread.
d) Send Message is called from within a Windows procedure, while Post Message is called from within message queues

45. Menu is ------
a) GDI Object **b) Resource** c) Picture

46. Following is not type of Device Context
a) Screen Device Context b) Window Device Context
c) Client area Device Context **d) View Device Context**

47. Modal Dialog Box is created on _____ &Mode less Dialog Box is created on _____.
a) Heap , stack **b) Stack , heap**

48. Which of the following are resources.
a) Menu b) Bitmap c) Status Bar Icon

49. _____ function creates model dialog box.
a) Create Dialog() **b) Dialog Box()** c) Dlg Box() d) Unknown

50. _____ is return type of window procedure.
a) Handle to the window **b) LRESULT** c) BOOL

51. To subclass window's background brush _____ API call is used.
a) Set Class Long()Set Class() b) Set Long Class() c) Settling()

52. The three classes of interface errors are:

a) Inter face misuse b) Interface misunderstanding c) Timing errors

53. _____ is first message passed to window procedure.
a) WM_PAINT b) WM_CREATE c) WM_SHOW d) WM_COMMAND

54. _____ function creates modeless dialog box.
a) Create Dialog()Dialog() b)Create Dialog Box() c)Dialog Box()

55. Write Windows messages in higher order
a) WM_TIMER b) Posted Message c) WM_LBUTTONDOWN d) Sent Message e) WM_PAINT
a) 1 , 2 , 3 , 4 , 5 b) 5 , 4 , 3 , 2 , 1 c) 2 , 3 , 4 , 5 , 1 d) 3 , 4 , 5 , 1 , 2

56. Write steps to create standard windows application
1. Initialise and Register Window class
2. Create window
3. Display Window
4. Message loop
5. WndProc

a) 1 , 2 , 3 , 4 , 5 b) 2 , 3 , 4 , 5 , 1 c) 3 , 4 , 5 , 1 , 2 d) 4 , 5 , 1 , 2 , 3

57. A windows program should have a message loop comprising of Get Message(), Dispatch Message() and Translate Message() to process messages from the message queue.
a) True b) False c) Not always

58. Get DC() is used to retrieve the device context handle for the windows client area when processing a WM_PAINT message.
a) True b) False c) Not always

59. If a printable key is pressed then WM_CHAR message will be generated and the ASCII code of the key will be stored in Parma.
a) True b) False c) Not always

60. Whenever WM_LBUTTONDOWN, WM_MOUSEMOVE, WM_RBUTTONDOWN messages are generated that time LOWORD (Param) and HIWORD (Param) consists of x and y coordinates of the mouse pointer.
a) True b) False c) Not always

61. Predefined controls send WM_COMMAND message whereas common controls send WM_NOTIFY message.
a) True b) False c) Not always

62. A Device Context is a GDI structure, which deals with text and graphics.
a) True b) False c) Not always

63. A Metafile is a collection of GUI functions that are encoded in a binary format.

a) True b) False c) Not always

64. A Clipboard is used to transfer information between applications or within application. a) True b) False

65. Win Main is an entry point for windows application.
a) True b) False c) Not Always

66. Menu is GDI Object.
a) True b) False c) Not Always

67. WINAPI is a API function which explicitly calls Operating System to run Window Procedure.
a) True b) False c) Not Always

68. When function key(s) pressed on the keyboard that time WM_KEYDOWN message is generated.
a) True b) False c) Not Always

69. LRESULT is a return type of Dialog Procedure.
a) True b) False c) Not Always

70. Set Pixel is used to draw a particular pixel with a particular colour.
a) True b) False c) Not Always

71. GetROP2 () is used to get the current drawing mode.
a) True b) False c) Not Always

72. Palette is an attribute of a device context.
a) True b) False c) Not Always

73. Windows TIMER is not an input device.
a) True b) False c) Not Always

74. In MDI application the default window procedure for main Window is Def. WindowProc ().
a) True b) False c) Not Always

75. The WM_INITDIALOG message is sent to the dialog box procedure immediately before a dialog box is displayed.
a) True b) False c) Not Always

76. In MDI application child windows are created by mainframe windows.
a) True b) False c) Not Always

77. Cursor is a GDI Object.
a) True b) False c) Not Always

78. Sub Classing means changing the behaviour of the controls.
a) True b) False c) Not Always

79. Colour Dialog box is a common dialog box.
a) True b) False c) Not Always

80. If you want your window procedure to receive double click mouse message that time, you must include the identifier _____ in a window class structure before calling
a) RegisterClassEX (). b) CS_DBLCLKS c) CS_DBLCLICKS d) CS_DBLS e) CS_DOUBLECLICKS

81. _____ is used to play the metafile.
a) Play Meta Play File Play Meta file b) Open Meta file

82. To use the windows common controls always include _____ .h header file.
a) COMMONCTL b) COMCTL c) COMMDLG d) COMMCTL

83. You can obtain the state of Shift keys by using _____ function.
a) Get Key State( ) b) Key get Value( ) c) Get State( ) d) Get Status( )

84. Entry point function of a DLL is _____.
a) Main( ) b) DLL Main( ) c) Start DLL( ) d) Run DLL ()

85. _____ is a function for creating a Thread.
a) New Thread( ) b) Thread ( ) c) Create Thread Instance ( ) d) Create Thread ( )

86. Pick up one of the testing methods given below that is part of white-box testing:
a) Equivalence partitioning b) Boundary value analysis c) Basis path testing

87. For drawing an Icon on client area of window _____ function is used.
a) Paint Icon( ) b) Paste Icon ( ) c) Draw Icon( ) d) Load Icon ( )

88. You can create a logical font by calling which of the following functions.
a) Create Font( ) b) CreateFontdirect( ) c) CreateFontIndirect( ) d) New Font ( )

89. Dynamic Linked Library is loaded in the memory at____
a) Static time b) Run time c) Load Time d) Compile Time.

90. Menu is _____
a) GDI Object b) Resource c) Picture d) Item

91. Which API call is used to check what type of data available in clipboard.
a) Is Clipboard Format Available ( ) b) Is Clipboard Contain Data ( )
c) Is Type of Data ( ) d) Set Clipboard Data ( )

92. Following option is not a mapping mode.
a) MM_ISOTROPIC b) MM_TEXT c) MM_BITMAP d) MM_HIMETRIC

93. Following is not a type of device context
a) Screen Device Context b) Window Device Context
c) Client Area Device Context d) View Device Context

94. Following is not a raster operation.
a) R2_COPYPEN b) R2_XORCOPYPEN
c) R2_NOT d) R2_YES

95. Every instance of a running program is_____ of virtual address space.
a) 4 GB b) 2 GB c) 6 GB d) 64 MB

96. Default size of heap is __
a) 2 MB b) 1 MB c) 32 MB d) None of the above

97. Following is not a bitmap related API call.
a) Paste Bit ( ) b) Bit Blt ( ) c) Stretch Blt ( ) d) Pat Blt ( )

98. Windows Message contains following information.
a) Visible property of a window b) Caption of window
c) Handle of window d) Root class of a window

99. _____ is a lowest priority message in Windows Programming. (Win 32 Programming)
a) WM_PAINT b) WM_COMMAND c) WM_CHAR d) WM_TIMER

100. SetROP2() function is used to change the Raster Operation the Device Context. a) True b) False c) Not Always

101. Create Enh Meta File returns handle of the metafile a) True b) False c) Not Always

102. Clipboard can store 'n' no of formats at a time.
a) True b) False c) Not Always

103. If 4 windows are running in a single application then there are 4 Message Queues.
a) True b) False c) Not Always

104. With Create Window _____ and _____ functions are used to display the window.
a) Display Window( ) , Update Window( ) b) Show Window( ), Dialog Box( )
c) Show Window( ) , Update Window( ) d) Show Window ( ) , Repaint Window ( )

105. The Windows system32 directory contains files which provides function to user application to perform certain task in the windows environment.
a) GDI32.DLL b) KERNEL32.DLL c) USER32.DLL d) WIN32.DLL

106. The layer between the application and different types of hardware
a) Application Layer b) GDI layer c) Data Layer Shell Layer

107. The Message received if the right mouse button is pressed in the non-client is
a) WM_RBUTTONDOWN b) WM_NCRBUTTONDOWN
c) WM_NCIRBUTTONDOWN d) WS_RBUTTONDOWN

108. In order to receive DoubleClick message a window must be created with which window style?
a) 1DB_DBCLK b) CS_DBLCLICK c) CS_DBLCLKS d) CS_DBLCLK

109. Which message helps in detecting mouse movement and finding mouse cursor position
a) WM_MOUSEMOVE b) WM_MOUSEPOS
c) WM_ONMOUSEMOVE d) None of these

110. When child Control in a dialog box is activated window sends which message?
a) WM_COMMAND b) Send Dlg Item c) WM_NOTIFY d) WM_ACTIVATE

111. Which function will test whether the message is the dialog box or the window?
a) Dlg Message() b) Send Dlg Message()
c) Translate Message() d) Is Dialog Message()

112. Which function creates a modal dialog box?
a) Create Dialog() b) Dialog Box() c) Do Modal() d) Create Dialog Box()

113. Which function creates a modeless dialog box?
a) Create Dialog() b) Do Modal() c) Dialog Box() d) Create Dialog Box()

114. Modal Dialog Box is destroyed by calling which function?
a) End Dialog() b) Destroy Dialog() c) End Dialog Box() d) End Modal()

115. Which function sends a message to controls in a dialog box?
a) Send Dlg Item Message() b) Send Dialog Message()
c) Send Dialog Item Message() d) none of these

116. The register() function takes a pointer to the Windlass structure as a parameter a) True b) False

117. WM_CHAR is a combination of WM_KEYUP and WM_KEYDOWN. a) True b) False

118. Only Modeless Dialog box can be moved on the screen. a) True b) False

119. The ID value for the child window is passed by Param Parameter with the message. a) True b) False

120. In which message it is better to initialize all the controls with in the dialog box.
a) WM_CREATE b) WM_INITDIALOG c) WM_INIT d) WM_COMMAND

121. The Copy Meta File function copies the content of a window-format Meta File to a) Specified File b) Create Meta File
c) Copy Meta File d) Copy Data Get Meta File

122. Translate Message Detects a Keyboard action that translates to an ANSI Character
a) True b) False

123. Screen Coordinates are pixels measured from the upper left corner of the window's client area
a) True b) False

124. Select Object function obtains an object from Device Context a) True b) False

125. Create pen Return handle to Old Pen a) True b) False

126. Which function use to copy file from one Device context to another

127. Device Context Bit Create Compatible Dc Copy Copy Bit

128. Handle to BITMAP is
a) HBITMAP b) HACCEL c) HDC d) HBMP

129. To Create Thread Function used is
a) Begin Thread b) Create Thread c) do Thread d) Create

130. WM_CREATE Message is generated after Window is Displayed a) True b) False

131. The Thread Control Panel is capable of performing the following action
a) Setting Thread Priority b) Suspending a Thread
c) Resuming Thread d) Terminating a Thread

132. Which values are used to Set thread priority
a) 15 b) -2 c) 4 d) -1

133. To display a modeless dialog which property u have to add in its resource files?
a) WM_SHOW b) WS_SHOW c) WS_VISIBLE d) WS_DISPLAY

134. A Mouse Click on Menu Bar generates:
a) WM_COMMAND b) WM_NOTIFY c) WM_CHAR d) WM_MENUCLICK

135. Change in the size of the status bar generates:
a) WM_RESIZE b) WM_SIZE c) WM_CHANGE d) WM_COMMAND

136. Get Text Matrix() determines the physical diminution of the font currently selected in the DC.
a) True b) False

137. Begin Paint() Prepares the windows client area for painting. a) True b) False

138. Rectangle function takes :
a) 2 Parameters b) 5 Parameters c) 4 Parameters d) None Of the Above

139. The Windlass Structure must be registered with the window before it can be used to create a 1.window.
a) True b) False

140. To halt the execution of a thread:
a) Kill Thread() b) Suspend Thread() c) Terminate Thread() d) None of These

141. The following are the steps of SDLC
a) Analysis b) Design c) Testing **d) All of the above**

141. The SDLC Model most suitable for large projects with clear knowledge & priority of requirements is
a) Spiral Model **b) Incremental Model**
c) Waterfall Model d) Prototyping Model

142. Which of the following is not true about the Waterfall Model?
a) It is suited for small projects b) It does not consider risk handling
c) It gives efficient staff utilization d) It needs clarity of requirements at start.

143. Prototyping in software process may involve _____.
a) Throw - away prototyping b) Evolutionary
c) Both a and b options d) None of these

144. Which of the following model may require largest deployment of manpower a) Incremental Model b) Waterfall Model
c) Component Assembly Model **d) RAD Model**

145. The majority of the lifetime of a program is spent in the _____ phase **a) Maintenance**
b) Analysis c) Design d) Testing

146. In Boehm's spiral model, each loop in the spiral represents _____ of the software process **a) Phase** b) Design c) Documentation d) None of the above

147. Which of the following is seen in the DFD but not in the Context Diagram
a) Data Sources b) Data Flows **c) Data Stores** d) Users

148. Data flow cannot take place between
a) A store & a process b) External entity & process
c) Store & an external entity d) Process& process

149. "Balancing of DFD" is means
a) Conservation of inputs & outputs at various levels
b) Sub dividing a process into smaller sub processes
c) Labelling of all data items
d) Allowing data flows to take place only to or from processes

150. A data flow diagram is not a
a) Logical model of a system b) Good guide to a system
c) Representation of the physical system d) All of these options

151. DFDs, decision tables, decision trees are tools of
a) Requirements analysis b) Requirements modelling
c) Software Design **d) All of the above**

152. Which model used to show data processing at different levels of abstraction from fairly abstract to fairly detailed ?
a) Semantic Data Models b) Object Model **c) Data Flow Models** d) Service Usage Models

153._____ Models describe the logical structure of the data which is imported to and exported by the system.
a) Object **b) Semantic data** c) Data flow d) None of the above

154. Which of the following is true about E-R Diagrams?
a) They consist of object-relationship pairs b) It indicates cardinality of relationships
c) It indicates modality of relationships **d) All of the above**

155. Which of the following is not a characteristic of a good SRS document?
a) Unambiguous b) Verifiable **c) Redundant** d) Consistent

156. Find the odd one out
a) Axiomatic Specification b) Algebraic Specification
c) Z Specification **d) Data Flow Diagram**

157. Which is the most undesirable form of cohesion from the following options
a) Sequential **b) Coincidental** c) Temporal d) Communicational

158. The external interface design process should be _____ a) Developer centered **b) User centered**
c) Administrator centered d) Management centered

159. Which of the following is true with respect to function oriented & object oriented design methodologies
a) They vary in the basic abstractions they use
b) They vary in the way state information is maintained
c) They vary in the way functions are grouped
d) **All of the above**

160. In which of the following phases of a use-case driven process do you think use cases have a role? a) Requirements capture b) Analysis c) Design d) Implementation e) Test
a) A, B & C **b) A, B, C & D** c) B & D d) A, B, C, D & E

161. Which of the following is NOT true about comments
b) Comments should use problem domain terminology
b) They should explain the code at crucial places only
c) They should be used to document changes to the code
d) **They add up to the LOC size of the software**

162. Use of coding standards
a) Eases the task of integration of software modules
b) Enhances the software maintainability of the
c) Enhances reusability of the software
d) **All of these options**

162. _____ is a programming method which combines data and instructions for processing that data into a self-sufficient block that can be used in other programs.
a) Modular programming b) Top down design
c) Object oriented programming d) Structured programming

163. A test case design technique that makes use of a knowledge of the internal program logic
a) Black Box Testing **b) White Box Testing** c) Unit Testing d) None of these

164. Black box test cases can be derived from
a) Source code b) Flowchart **c) SRS Document** d) Pseudo code

165. Which of the following is true about Boundary Value Analysis?
a) It is an approach to designing black box test cases

b) It is complementary to Equivalence Class Portioning
c) It gives test cases based on the boundaries of the equivalence classes d) **All of the above**

166. Cyclamate complexity is calculated from
a) Data Flow Graph b) Structure Chart
c) Control Flow Graph d) All of the above

167. Which of the following is true about McCabe`s Cyclamate Complexity of a Program
a) It is an indicator of the structural complexity of a program
b) It gives the maximum no of independent paths in a program
c) It is calculated from the no. of edges & nodes in the Control Flow diagram d) **All of the above**

168. Effective Software Project Management focusses on
a) People b) Problem c) Process **d) All of above**

169. Which of the following is generally not a part of the SPMP document? a) Configuration Management Plan b) Quality Assurance Plan
b) Risk Management Plan **d) Requirements Elicitation Plan**

170. Conversion of Adjusted Function Point Count to LOC count is dependent on
a) Team Size b) Project Duration **c) Programming Language** d) Cost Drivers

171. The critical path of PERT/CPM chart cannot be
a) The path with the longest duration
b) More than one unique path
c) **Path on which any delays are allowed**
d) Path with same earliest and latest starts for all activates

172. Which of the following are Software Risk Components
a) Performance b) Cost c) Schedule **d) All of the above**

173. The total float for an activity is a) The total duration of the activity
b) The difference between the earliest finish time and earliest start time
c) **The difference between the latest finish time and the earliest finish time**
d) The difference between the latest finish time and the earliest start time

174. According to the staffing pattern of a software project follows the Rayleigh-Norden curve and peaks during the _____
a) Detailed design **b) Coding & Unit testing**
c) Integration Testing d) System Testing

175. Arrange the following activities in Risk Assessment in the correct sequence a. Prioritization b. Identification c. Analysis
a) b, a, c **b) b, c, a** c) a, b, c d) c, a, b

176. Risk of unrealistic estimates & schedules can be overcome by

a) Using objective methods of estimation rather than judgmental methods
b) Developing a culture of software reuse
c) Performing multisource estimations
d) **All of the above**

177 Under SCM the various SCIs are strictly maintained
a) By their respective authors b) By the appropriate team
c) In a central project database d) All of the above

178 Cleanroom Software Development process is based on
a) Formal Specification b) Static Verification c) Statistical Testing **d) All of the above**

179. Which one of the following is method is not used in describing complex system process
a) Decision table b) Structure English c) Finite automata **d) Binary tree**

180. c from the relationship
a) Productivity=KLOC/person-month b) Productivity=KLOC/defects
c) Productivity=KLOC/LOC d) Productivity=KLOC*person-month

181. The goal of coding is
a) To reduce the cost of testing b) To reduce the cost of maintenance
c) Both a & b d) None

182. Bottom of Form
Top of Form
Broad design of modules & their relationships is called
a) External design b) Detailed design **c) Architectural design** d) Process design

183. The choice of the Software Development Life Cycle Model to be followed for a project depends on
A) Initial Clarity of Requirements B) Size of the Project
C) Time Frame of the Project D) Clarity on Technical Issues
a) A, B & C only b) A, B & D only **c) A, B, C & D** d) A & D only

184. The SDLC Model most suitable for small projects with clear requirements is
a) Spiral Model b) Incremental Model **c) Waterfall Model** d) Prototyping Model

185. The Linear Sequential or Classic Life Cycle is also called
a) Waterfall Model b) Incremental Model c) Spiral model d) Prototyping Model

186. The waterfall model of the software process considers each process activity as a _____ phase
a) Separate b) Discrete **c) Both a and b options** d) None of the above

187. Which of the following is not a feature of RAD
a) Well understood, constrained & modularizable requirements

b) Component based construction & use of 4 GL
c) Use of multiple teams each developing separate function
d) **Project has high technical risks**

188. In the Spiral model the radius of the spiral at any point represents
a) The level of risk b) The progress made in the current phase
c) The cost incurred in the project till then d) None of these

189. _____ uses powerful development software and small, highly trained teams of programmers.
a) Prototyping **b) RAD** c) Coding d) Modeling

190. Planning the modular program structure & control relationships between modules is called a) Architectural Design b) High Level Design c) System Design
d) All of the above

191. Designers should aim to produce strongly _____ and weakly _____ designs
a) coupled, functional b) Maintainable, cohesive
c) Cohesive, coupled d) Coupled, cohesive

192. Use of global data areas or global variables may lead to
a) Stamp Coupling **b) Common Coupling**
c) Content Coupling d) Control Coupling

193. Function oriented design process consists of
a) Data Flow Design b) Structural decomposition
c) Detailed Design **d) All of the above**

194. Transform Analysis performed on a DFD identifies the
a) Afferent Branch b) Efferent Branch
c) Central Transform **d) All of the above**

195. The two questions "Are we building the right product?" &"Are we building the product right?" correspond to
a) Verification only b) Validation only
c) Validation & Verification respectively d) Verification &Validation respectively

196. Which of the following is not a White box testing method
a) Statement coverage **b) Error guessing**
c) Path coverage d) Condition Coverage

197. A Test case includes
a) Input b) Expected output c) Information of function under test **d) All of these options**

198. A stub is a dummy verion of the _____ module of the module under testing
a) Superordinate **b) Subordinate** c) Coordinate d) All of the above

199. A driver is a dummy version of the _____ module of the module under testing **a) Superordinate** b) Subordinate c) Coordinate d) All of the above

200. _____ exercises the system beyond its maximum design load
a) Thread testing **b) Stress Testing** c) Back to back testing d) All of the above

201. Presenting the same tests to different versions of the system and compare outputs is called
a) Thread testing b) Stress Testing **c) Back to back testing** d) All of the above

202. Which of the following is not a part of Project Plan?
a) Risk Management Plan b) Personnel Plan
c) Project Mentoring Plan **d) Software Architecture Planning**

203. Which of the following is true for two projects of same category with the same estimated LOC size and using COCOMO for estimation
A) The initial effort estimate for both projects will be same as both have same LOC
B) The Effort Adjustment Factor will always be the same for both projects
C) The final effort estimate will always be the same for both projects
a) Only A is true. b) Only A & B are true c) Only C is true d) Neither A, B or C are true.

204. In COCOMO terminology a project with software being strongly coupled to complex hardware & stringent regulations on operating procedures is categorised as
a) Organic b) Semidetached **c) Embedded** d) Application

205. The minimum time required to finish the project can be estimated by considering the _____ path in the activity graph
a) Shortest **b) Longest** c) Average d) SPT

206. PERT/CPM cannot be used for
a) Scheduling of projects b) Monitoring & Control of projects
c) Optimizing Resource Utilization **d) Quality control of products**

207. Democratic team structure is suitable for projects
a) With strict deadlines b) With clearly known requirements
c) With research orientation d) None of these

208. _____ ensures that a set procedure is followed to make any changes to the software
a) Configuration Identification **b) Configuration Control** c) Base lining d) All of the above

209. Configuration Management is
a) Framework activity b) Umbrella activity
c) One time activity d) None of the above

210. CASE stands for

a) Computing Advanced System Engineering **b) Computer Aided Software Engineering**
c) Calculating Arithmetic System Engineering d) None of the above

211. Requirement phase is usually done by
a) System Analyst b) System Administrator c) System Engineer d) All

212. Which one of the following is not considered as parameter of function point a) Number of input b) Number of interface
c) Number of file **d) Number of output data**

213. Cohesion is the concept which tries to capture this
a) Intra-Module b) Extra-Module c) Inner-Module d) Outer-Module

214. Functional approach is also known as
a) Glass box testing **b) Black box testing**
c) Input box testing d) Output box testing

215. Object oriented technology`s use of _____ facilitates reuse of the code and architecture while its _____ feature provides systems with stability, as a small change in requirements doesn`t require massive changes in the system.
a) Inheritance, Encapsulation b) Inheritance, Polymorphism
c) Encapsulation, Polymorphism d) Polymorphism, Abstraction

216. Which of the following steps do you think developers should take to create efficient compact applications?
a. Clearly define initial requirements of the system
b. concentrate earl development efforts on modeling implementation mechanisms
c. Analyze and manage risk throughout the development process
d. Leave all software testing until after system has been implemented
a) a, c b) a, b c) a., b, d d) a, b, c

217. Which of the following elements combine to form OOAD method
a. Notation b. Diagram c. Process d. View
a) a, c b) a, b c) a, b, d d) a, b, c

218. Which of the following are aims of UML? a.
To model system using OO concepts
b. To provide a process for software development
c.To support small-scale and large-scale analysis and design
d.To provide an insight into implementation mechanism
a) a, c b) a, b c) a, b, d **d) a, c, d**
219. Towards end of the design phase, _____ should be allocated to source code components.
a) Use cases b) Relationships c) Models **d) Classes**

220. What do you think is the first step you should take in designing any project?
a) Design a prototype
b) Create the test cases
c) **Define problem domain and produce problem statement**
d) Draw up a plan for entire project

221. Which of the following best describes what the problem domain is? a) Kinds of resources available to development team
b) **Surroundings in which system operate**
c) Set of all functionality required of a system
d) List of technical details needed to implement project

222. If you are finding hard to identify the name of class and to write definition for it. What thing you should do?
a) Ignore class completely
b) **Do more analysis to get a better understanding of what is involved in the class**
c) Write a definition for the class even if it is not very good
d) Make it a friend class of some other main class

223. Which of the following statements are true of use cases and use case models? a. Functionality of a use-case has to be complete from start to finish
b. Use case provide developers with classes and operations
c. Use cases outline functionality of the system
d. Use case models can be used to test the system
a) a, b, c b) a, b, c, d **c) a, c, d** d) a, c

224. Class diagram represents
a) Conceptual design b) Organization of objects
c) Set of actions d) State machine

225. Collaboration diagram represents
a) Organization of objects b) Messages on time scale
c) Conceptual design d) Set of actions

226. State chart diagram
a) Organization of objects b) Conceptual design c) Set of actions **d) State machine**

227. In OOD primary abstraction mechanism is _____
a) Function **b) Class** c) Object d) Hierarchy

228. Incremental model _____
a) **Delivers a system in a series of versions**
b) Works with encapsulation and inheritance to simplify flow of control
c) Builds a bridge between user and developer
d) Uses experimental software to better understand user requirements

229. Prototyping model _____
a) Delivers a system in a series of versions
b) Builds a bridge between user and developer
c) **Uses experimental software to better understand user requirements**
d) Works with encapsulation and inheritance to simplify flow of control

230. software re-engineering actually means reverse engineers re-engineering is a type of software maintenance elements of software architecture of a computing systems include
A. software components
B.class diagrams
C. connectors expressing relationships between software components
D. E-R diagram
a) A, B **b) A, C** c) A, C, D d) A, B, C, D

231. Project milestones are mainly divided in these two parts
a) DFD and SRS b) Interface design and implementation
c) Feasibility study and detailed design **d) Requirements and design**

232. Which is not part of testing?
a) White box testing b) Black box testing **c) Inner testing** d) Gorilla testing

233. Which is not part of phases of software development a) High level design b) low level design
c) Mid-level design d) Replication, delivery, installation

234. Which software development model incorporates risk management?
a) Water fall model **b) Spiral model** c) Incremental model d) Object model

235. Largest time is spent on which of the software development phase?
a) Testing **b) Enhancement** c) Bug fixing d) Analysis and design

236. Simple SDLC contain
a) **Requirements, analysis, design, implementation, testing**
b) Analysis, design, implementation, testing, deployment
c) Analysis, design, implementation, testing, maintenance
d) Requirements, analysis, design, implementation, deployment

237. DFD is not a
a) **Logical model of system** b) Good guide to a system
c) Representation of physical stream d) All of the above

238. Productivity metrics
a) **Focuses on the output of the development process.**

b) Focuses on the characteristics of the software.
c) Provide indirect measure. d) All.

239. Which is not a type of maintenance?
a) Adaptive b) Corrective c) Perfective **d) Obsolescence**

240. Adaptive Maintenance is
a) To improve the system in some way by changing its basic functionality
b) **The maintenance due to changes in the environment**
c) The correction of undiscovered system errors
d) None of the above

241. Which of the following activities involves choosing a system structure capable of satisfying the requirement Specification?
a) Requirements Analysis **b) Design** c) Coding d) Testing

242. Reliability in a software system can be achieved using the following strategies, EXCEPT a) Fault avoidance b) Fault tolerance
b) **Fault detection** d) Fault rectification

243. The Software Development Life Cycle covers activities from
a) Feasibility Study to Installation **b) Requirements Phase to Testing**
c) Requirements Phase to Maintenance d) Project Initiation to Software Retirement

244. Identify the true statements about using a process for software development. a) Processes usually divide software development into phases
b) Processes provide guidelines for what to do at each phase of development c) Processes are used o
1) a and c 2) a and b **3) a, b and d** 4) a, c and d

245. Process visibility is enhanced by
a) Defining clear cut phases b) Producing documents related to each phase
c) Conducting reviews & checks **d) All of the above**

246. Which of the following activities is not considered as "Umbrella Activity" a) S/W Quality assurance **b) Software Design**
c) S/W configuration management d) S/W Project Monitoring & Control

247. What is the primary purpose of the first stage of software analysis and design? a) Determining system deployment b) Writing code
c) Capturing requirements d) Building GUIs

248. SDLC starts with _____ stage
a) User Requirement and Analysis b) Deployment c) Testing d) Design

249. The analysis phase takes an _____ approach to the system, ignoring its inner workings whereas the
design phase takes an _____ approach, making decisions on how the model will be implemented in code

a) White box & Black box **b) Black box & White box**
c) Top-Down & Bottom-Up d) Bottom-Up & Top-Down

250. The goal of _____ is to obtain a clear understanding of the system and its shortcomings and to determine opportunities for improvement

a) Feasibility study **b) Systems analysis**
b) c) Systems definition d) Systems study

251. The last step in System Development Life Cycle is _____

a) Analysis b) Implementation **c) Testing** d) Maintenance

252. The _____ phase of the systems life cycle contains periodic evaluations and updates of the system
preliminary

a) Investigation b) Systems analysis
c) Systems implementation **d) Systems maintenance**

253. During the _____ phase, the application is verified against the requirements

a) Analysis b) Design **c) Testing** d) Implementation

254. The type of software maintenance which is done to add new features to the product is called

a) Corrective Maintenance b) Adaptive Maintenance
c) Regressive Maintenance **d) Perfective Maintenance**

255. Because of the cascade from one phase to another, the model of software development process is known as

a) Evolutionary model b) Formal model
c) Waterfall model d) None of the above

256. Prototype may be used for

a) Risk Reduction b) Requirements Elicitation
c) User Interface Design **d) All of the above**

257. RAD Model is high speed implementation of

a) Waterfall Model b) Spiral Model
c) Prototyping model d) Component Assembly model

258. _____ means to build a model that can be modified before the actual system is installed

a) Maintenance **b) Prototyping** c) Implementation d) None of the above

259. A requirement may be a description of
a) Functionality to be provided b) Constraint on the software
c) External interface **d) All of the above**

260. DFD gives idea about flow of _____ & flowchart gives idea of the flow of _____ a) Processes, decisions b) Control, data c) Logic, control **d) Data, control**

261. Data Models do not consider
a) Attributes of the data object b) Relationships between data objects
c) Operations that act on the data d) Any of the above

262. Notations used to specify the external characteristics, architectural structure, and processing details of a software system include I. Data Flow Diagrams II. HIPO diagrams III. Structure Charts
a) I and II Only b) III Only **c) I, II and III** d) None of the above

263. Formal specification language consists of
a) Syntax b) Semantics c) Set of relations **d) All of the above**

264. The software architecture is best represented by
a) Context Diagram b) Flow Chart **c) Structure Chart** d) Data Flow Diagram

265. Using _____ a programmer can detail the logic of the program
a) **Pseudo code** b) Software c) Context diagram d) Data flow diagram

266. Which of the following is not true about a flow chart? a) It shows the flow of control of a program
b) It is a tool for detailed design
c) Data interchange is not represented
d) **It clearly separates various modules of the software**

267. _____ involves modeling a system as a set of interacting functional units. a) Object oriented decomposition b) Procedural decomposition
c) Functional decomposition d) None of the above

268. Typographical errors and/or incorrect use of the programming language is referred to as
a) Logic errors **b) Syntax errors** c) Run time errors d) A bug

269. Testing of software falls after _____ stage.
a) Designing b) Implementation c) Deployment **d) Coding**

270. Changes made to the software to accommodate changes to its environment is called a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance d) Corrective maintenance

271. Major changes made to software after long periods is also called software reengineering or
a) Perfective maintenance **b) Regressive maintenance**
c) Adaptive maintenance d) Corrective maintenance

272. Function Point Count is dependent on
a) Platform & Technology b) Team Size
c) H/W & Software Resources **d) Features & Functionalities**

273. In COCOMO terminology a project with mixed level of staff experience & part familiarity with the system being developed is categorized as
a) Organic **b) Semidetached** c) Embedded d) Application

274. The value of COCOMO cost driver attribute for higher than average Programmer Ability will be
a) Greater than 1 b) Equal to 1 **c) Less than 1** d) None of these 275. ____ And ____ are graphical notations which are used to illustrate the project schedule.
a) Bar chart and DFD b) ERD and Bar chart
c) Class diagram and activity networks **d) Bar char and activity networks**

276. Risk Assessment Table is based on categorization by
a) Risk Components b) Risk Impact **c) Both a and b options** d) None of the above

278. Risks arising out of frequent change requests are best mitigated by a) User characterization **b) Strong SCM**
c) Multisource estimations d) Prescheduling key personnel

279. Automated SCM tools help solve problem of
a) Inconsistencies of SCIs b) Concurrent access to SCI
c) Instability of development environment **d) All of these options**

280. As per SEI CMM organizations which do not have any KPAs present & stable are considered at
a) Level 1 b) Level 2 c) Level 3 d) Level 4

281. In which of the following phases of use-case driven process do you think use cases have a role?
a. requirement capture
b. analysis
c. design
d. implementation
e. test
a) a, b, c b) a, b, c, d c) b, d **d) a, b, c, e**

282. Sequence diagram represents
a) Organization of objects **b) Messages on time scale**

c) Conceptual design d) Set of actions

283. Analysis takes place from _____ perspective and design takes place from _____ perspective

a) User, user **b) User, developer** c) Developer, user d) Developer, developer

284. The _____ phase of SDLC aims at ensuring software product is as per requirements.

a) Design b) Development **c) Testing** d) Deployment

285. Polymorphism _____

a) Organizes abstraction
b) Builds a bridge between user and developer
c) Delivers a system in a series of versions
d) **works with encapsulation and inheritance to simplify flow of control**

286. Spiral model incorporates risk management

a) True b) False

287. Storage management is not a part of version management

a) True **b) False**

288. Data flow diagrams are part of design phase of SDLC

a) True b) False

289. Which is an iterative process through which the requirements are translated to "blueprint" for constructing software

a) Testing b) Requirement analysis **c) Design** d) Maintenance

290. What manifests in the patterns of choices made among alternative ways of expressing an algorithm is

a) A data flow diagram b) Coding style c) A data dictionary **d) A flow chart**

291. Quality control

a) **Focuses on inspections, testing and removal of defects before release**
b) Is a set of planned and strictly and strategic actions to provide confidence that the product or service will satisfy given requirements for quality
c) Is to check system for its internal errors
d) All of the above

292. Which of the following types of test plans is most likely to arise from requirement specification process?

a) System integration testing plan **b) Acceptance test plan**
c) Sub-system integration test plan d) Module test plan

293. In project planning first thing is

a) Set objective or goal b) Develop strategies and policies
c) Decision making d) Find out requirement

294. Which of the following is not part of spiral model?
a) Planning b) Customer communication
c) Project documentation d) Engineering

295. Pick up one of the testing methods given below that is part of white-box testing a) Euivalence partitioning b) Boundary value analysis
c) Basis and testing d) Debugging

296. Following are the different steps that is to be followed in design methodology arrange them in an order.
a) First level factoring b) factoring of input
c) Restate the problem d) Identifying the input and output
a) a, b, c, d **b) c, d, a, b** c) a, d, c, b d) a, c, b ,d

297. COCOMO is an effort estimation model in terms of _____
a) Cost **b) Person- Months** c) Both d) None of the above

298. Pick the odd one out
a) Component assembly model b) Spiral Model
c) Incremental Model d) Iterative Model

299. During Requirements Phase recording interface requirements of a software system does not include which of the following interfaces
a) User Interfaces b) Software Interfaces
b) c) Hardware Interfaces **d) Module Interfaces**

300. External Entities in a Context Diagram may be
A) People B) Other Software Systems C) Hardware D) Databases
a) Only A & D b) Only B & C c) Only A, B & D **d) A,B, C & D**

301. Example of a Semantic Data model is
a) Data flow diagram b) Context Diagram **c) Entity Relationship Diagram** d) All of the above

302. A system developed to give end users a concrete impression of the system capabilities is called
a) Semantics b) Model **c) Prototype** d) Abstraction

303. Planning the solution to a programming problem using a structured technique is called program
a) Coding b) Compiling c) Modeling **d) Design**

304. Conception & planning out of externally observable characteristics of a software is called a) External Design b) User Interface Design

c) Both a and b options d) None of the above

305. A way of indicating the desired effect without establishing the actual mechanism a) Procedural Abstraction b) Data Abstraction
c) Control Abstraction d) None of the above

306. The number & complexity of interconnections between two modules is an indicator of
a) Modularity b) Cohesion **c) Coupling** d) Abstraction

307. The method of deriving the structure chart from the DFD is called
a) Factoring b) Factor Analysis **c) Transform Analysis** d) All of the above

308. Which of the following is true about structure chart notations? a) There should be only one module at the top
b) There should be at the most one control arrow between two modules
c) The sequence or order of tasks is not represented
d) **All of the above**

309. A programmer must follow the rules for coding a particular programming language. These rules are called:
a) Pseudo code b) Iteration **c) Syntax** d) Documentation

310. _____ is the process of locating and eliminating program errors.
a) Editing b) Correcting **c) Debugging** d) Testing

311. Changes made to the software to extend it beyond its original functionality is called
a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance d) Corrective maintenance

312. COCOMO is categorizes as a _____estimation technique
a) Heuristic b) Empirical c) Analytical d) None of the above

313. Which of the following is true as per Putnam model a) Staffing Pattern peaks at Coding & Unit testing
b) Schedule compression increases effort in proportion to fourth power
c) Expanding the schedule gives extreme saving in effort
d) **All of the above**

314. RMMM is a Risk Management methodology which focusses on a) Risk avoidance by developing a risk mitigation plan
b) Continuous risk monitoring throughout the project
c) Actually managing the risks when they become a reality by contingency planning **d) All of the above**

315. A change request has to be evaluated for

a) Its technical merit b) Cost & schedule impacts
c) Side effects **d) All of these options**

316. Software quality managers are responsible for ____.
a) Quality assurance b) Quality planning c) Quality control **d) All of the above**

317. Which of the following are possible actors? a. data inputted
b. GUI component
c. Another system
d. A printer
a) A, B, C b) A, B, C, D **c) A, B, D** d) A, C

318. UML can be used as a way to represent only OO software systems
a) True **b) False**

319. Use cases can be included in any type of collaboration diagrams.
a) True **b) False**

320. Which of the following is reason of project failure?
a) Finite resources
b) **Inaccurate estimates of cost and time**
c) Others are competing to do the job cheaper and faster
d) None of the above

321. _____ is method for estimating software
a) COCOMO b) Function point analysis
c) Use case estimation **d) All of the above**

322. Pick up odd one out of the following
a) Component assembly model b) Spiral model
c) Incremental model d) Iterative model

323. Parts of design principle are
a) Correctness, robustness, efficiency, flexibility, understandable
b) **Correctness, robustness, efficiency, flexibility, reusability**
c) Flexibility, correctness, robustness, efficiency, standard
d) Flexibility, correctness, robustness, efficiency, security

324. Which of the following can be a reason for project failure?
a) Finite resources **b) Inaccurate estimates of cost & time**
c) Others competing to do the job cheaper & faster. d) None of the above

325. An approved feasibility study is a deliverable out of
a) Systems design **b) Preliminary investigation**
c) Systems development d) Systems analysis

326. Checklists, grid charts, and decision tables are all tools used in the _____ step a) Preliminary investigation **b) Systems analysis**
c) Systems development d) Systems implementation

327. The present system is studied in depth during the _____ phase of the systems life cycle.
a) Preliminary investigation **b) Systems analysis**
b) Systems design d) Systems development

328. The SDLC Model most suitable for small projects with unclear requirements is but not many technical risks is
a) Spiral Model b) Incremental Model c) Waterfall Model **d) Prototyping Model**

329. Arrange the following Requirements sub phases in the correct order
A. Documentation B. Analysis C. Validation D. Elicitation
a) A, B, C, D **b) D, B, A, C** c) D, C, A, B d) B, A, D C

330. Automated CASE tools like PSL/PSA do not help in
a) Requirements Documentation b) Requirements Validation
c) Requirements Analysis **d) Requirements Elicitation**

331. The requirement engineering process has the following stages, except a) Feasibility study b) Requirement analysis
c) Implementation d) Requirement definition

332. Concept of Abstraction is used in
a) Requirements phase b) Design Phase c) Testing Phase **d) All of the above**

333. The number of subordinate modules controlled by a module is called its
a) Control range **b) Fan out** c) Fan in d) Width

334. If two modules pass a data structure across their interface they exhibit
a) Stamp Coupling b) Data Coupling c) Content Coupling d) Control Coupling

335. The strength of relationship between which of the following elements of a module is examined to evaluate module cohesion
a) Function declarations, function definitions& calls b) Variable declarations
c) Data definitions **d) All of the above**

336. The graphical tool commonly used to represent the system architecture is called
a) Context Diagram **b) Structure Chart** c) Architectural Plan d) Event Table

337. The value of COCOMO cost driver attribute for lower than average Reliability requirement will be

a) Greater than 1 b) Equal to 1 **c) Less than 1** d) None of these

338. Example of Software Configuration Items (SCI) is

a) SRS b) Code c) User manual **d) All of the above**

339. Top of Form Which of the following factors of a Software Product may not contribute much to its maintainability?

a) Understand ability b) Flexibility **c) Security** d) Testability

340. Your Answer: The Software Life Cycle covers activities from

a) Feasibility Study to Installation b) Requirements Phase to Testing
c) Requirements Phase to Maintenance **d) Project Initiation to Software Retirement**

341. Any activity designed to keep programs in working condition, error free, and up-to-date, is referred to as _____

a) Maintenance b) Testing c) Debugging d) Coding

342. During the _____ phase of the systems life cycle, the new hardware and software are acquired and tested

a) Design b) Development **c) Implementation** d) Maintenance

343. E-R diagrams are used in

a) Database design b) Data Dictionary compilation
c) Architectural design d) Functional Design

344. The flow of data within a system is described by a _____

a) Data flow diagram b) Top-down analysis c) System flowchart d) Decision table

345. Formal specification techniques are based on

a) Set theory b) Logic c) Sequence **d) All of the above**

346. Using the name of a sequence of instructions in place of the sequence of instructions is an example of

a) Procedural Abstraction b) Data Abstraction
c) Control Abstraction d) None of the above

347. Providing a logical reference to the data object without concern for the underlying representation is

a) Procedural Abstraction **b) Data Abstraction**
c) Control Abstraction d) None of the above

348. A module whose all elements exhibit relationship which involves both data and control flow is said to be _____ cohesive

a) **Sequentially** b) Communicational c) Temporally d) Procedurally

349. The afferent branch of the DFD ends at the

a) Most Abstract Input b) Most Abstract Output
c) Middle of the central transform d) All of the above

350. I. Object-oriented software development creates better programs but is less efficient to use II. Objectoriented software development is more efficient than traditional methods.
III. OOP is a process that organizes a program into objects that contain both data and the processing operations necessary to perform a task

a) I and II are correct b) II and III are correct
c) I and III are correct d) I, II and III are correct

351. The if-then-else construct is an example of the

a) Sequencing **b) Selection** c) Iteration d) All of the above

352. Proper program layout by proper usage of proper use of indentation, blank spaces, blank lines, parentheses improves

a) Efficiency of the program b) Size of the program
c) Maintainability of the program d) Reliability of the program

353. Static verification & validation is applied to

a) SRS b) Design c) Code **d) All of the above**

354. Static testing involves

a) Code Analysis b) Structural Analysis c) Data Flow Analysis **d) All of the above**

356. Statistical Testing is used for

a) For statistical software's only b) Only uncovering defects
c) Reliability estimation d) Efficiency estimation

357. Which of the following is NOT true about software testing

a) It follows a bottom up approach **b) Testing is planned after the coding phase**
b) Complete testing is not possible d) Testing only establishes presence of defects

358. Which of the following is NOT true with regard to Testing & Debugging

a) **Testing includes debugging** b) Debugging includes retesting
c) Testing only establishes presence of defects d) Debugging repairs the program defects

359. Purely black box testing would be used at which of the following levels?

a) Unit testing b) Module testing

c) Integration Testing **d) Acceptance Testing**

360. Black box testing is more useful in locating
a) Functional Errors b) Performance Errors c) Interface Errors **d) All of these options**

361. Test Data includes
a) **Set of inputs** b) Set of expected outputs
b) c) Information of function under test d) All of these options

362. Testing strategies can be _____.
a) Top – down testing, Bottom – up testing b) Thread testing, Stress testing
c) Back – to – back testing **d) All of above**

363. A stub is a dummy version of the _____ module of the module under testing
a) Superordinate **b) Subordinate** c) Coordinate d) All of the above

364. Testing done with real data is called _____.
a) Data testing b) Unified testing c) Alpha testing **d) Beta testing**

365. The following are the testing strategies except
a) Top-down testing b) Thread testing **c) Stress testing** d) Verification testing

366. An example of an Empirical Software estimation technique is
a) COCOMO b) FPA **c) Delphi** d) Halstead`s Software Science

367. The Lines of Code (LOC) size do not include
a) Compiler Directives b) Declarations **c) Comments** d) All of the above

368. Repeatable level as per CMM model is
a) Level 1 **b) Level 2** c) Level 3 d) Level 4

369. The collection of computer programs, procedures, rules and associated document and data is called ----------
a) **Software** b) Hardware c) Both d) None

370. A context diagram contain
a) Only one process b) More than one process
c) At least one process d) None

371. The spiral model is both suitable for
a) Development type projects b) Enhancement type project **c) Both** d) None

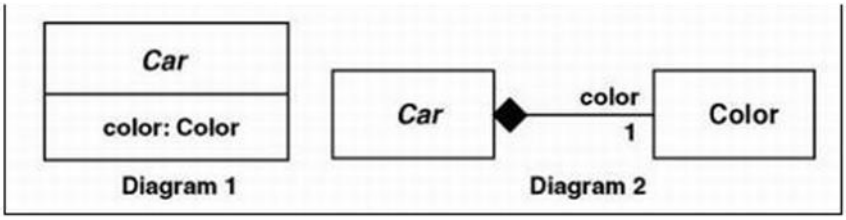
372. Three major factor of software engineering are

a) Cost, Correctness, Reliability **b) Cost, Schedule, Reliability**
b) Cost, Quality, Correctness d) Cost, Portability, Reliability

373. Data flow can take place between
a) Process to Process b) File to File c) Process to File d) External Entity to Process
a) A, B, C b) B, C, D **c) A, C, D** d) A ,B, D

374. Match the level testing can work on
1) Acceptance Testing 2) System Testing 3) Integration Testing 4) Unit Testing
a) Client Needs b) Requirements c) Design d)Code
a) 1-a, 2-b, 3-c, 4-d b) 1-d, 2-b, 3-c, 4-a c) 1-a, 2-b, 3-d, 4-c d) 1-a, 2-c, 3-b, 4-d

375. The first step in the project planning is:
a) Size of the product b) Select team organizational mode
c) Determine the Project constraints d) Establish objectives and scope



a) 1: An aggregation, 2: A composition. b) 1: An attribute, 2: An aggregation.
c) 1: An aggregation, 2: An attribute. **d) 1: An attribute. 2: A composition.**

376. Phase containment of errors means.
a) Detect errors to the closest point of errors.
b) Stop errors during software projects deployment.
c) Stop errors during software projects coding
d) None of the above.

377. The most commonly used model in today's development is **a) Waterfall model** b) Spiral model
c) Iterative waterfall model d) None of the above.

378. What is "Customer must have at least a Pentium machine to access this software" in context of Software Requirements,
a) **Assumption** b) Objective c) Business Problem d) All of the above

379. For a Leave Application System, an "Employee" can use the system to request for leaves and a "Manager can approve/reject the leaves. The data will be stored within a "Leave database" as part of this system. In this scenario, identify the valid actors from the following for this system.'
i) Employee ii) Manager iii) Leave Database iv) Leave Application System
a) None of the above b) i, ii c) iii, IV d) All of the above

380. A timing constraint placed on the system or the use of a specific language during development, is an example of

a) Functional requirements **b) Non-functional requirements**
c) Requirements definition d) None of the above

381. What is a Requirement definition?

a) What software provides. **b) Requirements in SRS**
c) What customer wants? d) All of the above

382. Which of the following is a tool in design phase?

a) Abstraction b) Refinement c) Information hiding **d) All the above**

383. The data flow diagram

a) Depicts relationships between data objects depicts relationships between data objects
b) Depicts functions that transform the data flow
c) **Indicates how data are transformed by the system**
d) d) Both b and c

384. Content testing uncovers

a) Syntactic errors **b) Semantic errors** c) Structural errors d) All of the above

385. Which of these are standards for assessing software processes?

a) SEI R b) SPICE **c) ISO 9001** d) Both b and c

386. Methods of Project Monitoring are

a) Time sheet b) Earned value method c) Design Constraints **d) Both a & b**

387. Risk projection attempts to rate each risk in two ways

a) Likelihood and cost **b) Likelihood and impact**
c) Likelihood and consequences d) Likelihood and exposure

388. Effective risk management plan needs to address which of these issues?

a) Risk avoidance b) Risk monitoring c) Contingency planning **d) All of the above**

389. To quantify a risk we need to do the following

a) Determine the possibility of risk happening **b) Both a and b.**
c) Determine consequences of the problem associated with that risk. d) None of the above.

390. Deliverable for a software Project is

a) Source Code b) Design Documents
c) Requirement Documents and Test Plans **d) All of the above**

391. Scoping is done during,
a) Proposal Stage **b) Requirements gathering stage**
c) Design Stage d) Coding Stage

392. A software engineer is measuring the quality of a software system. He is concerned with the 'reliability' and the "validity' of his measurements. Which of the following is true?
a) Reliability refers to the extent to which the measurement represents the actual quality of the system and validity refers to the consistency of the quality measurements
b) **Reliability refers to the consistency of her quality measurements and validity refers to the extent to which the measurement represents the actual quality of the system.**
c) Reliability refers to the accuracy of her quality measurements and validity refers to the extent to which the measurement follows a quality standard.
d) Reliability refers to the concurrency of her quality measurements and validity refers to the extent to which the measurements are consistent with established norms.

393. Quality attributes are the overall factors that affect
a) Run-time behaviour b) System design c) User experience **d) All of the above**

394. Testing is a
a) **Process of executing a program with intent of finding an error** b) Process of removing error
c) Process of testing software d) All of the above

396. Black box testing checks the following errors
a) Incorrect function b) Interface errors
c) Both a & b **d) None of the above**

397. A method of estimating the amount of functionality required for a project is
a) WBS Estimation b) UCP Estimation **c) FP Estimation** estimation d) COCOMO

398. Scheduling begins with _____
a) Risk identification **b) Process decomposition**
c) FP Estimation d) COCOM0 estimation

399. Aggregation represents
a) Is a relationship b) Part of relationship c) Composed of relationship d) None of above

400. Modules X and Y operate on the same input and output data. The cohesion is said to be
a) Sequential **b) Communicational** c) Procedural d) Logical

401. Estimates are made in a project primarily on
a) Size b) Cost c) Both a and b. d) None of the above

402. SPMP document is made at the end of
a) **Project planning** b) Project monitoring
c) Project control d) None of the above

403. While gathering the requirements on OO way (using RUP UML), the very first thing we should do it
a) Start gathering functional requirements
b) List down all the Users of the System (called as Actors)
c) Start gathering non-functional requirements
d) Create Test plan

404. What is the solution to "Yes-But Syndrome" in requirements gathering?
a) Improve technical skills **b) Seek customer feedback early**
c) Learn a tool for requirements d) None of the above

405. Which of the following statements is true regarding scenarios?
a) Scenarios are instances of a use case. b) Scenarios are generalizations of many use cases.
c) A use case is an instance of a scenario. d) None of the above

406. Which of the following is true about a Build?
a) A Build represents an operational version of a system or a part of the system that demonstrates a subset of the capabilities provided in the final product.
b) A Build constitutes an integral part of the iterative development lifecycle and provides review points.
c) Each Build is placed under configuration control in case there is a need to roll back to an earlier version when added functionality causes breakages or when there is otherwise some form of compromised Build integrity.
d) **All of the above**

407. What is the Cost of quality, Failure cost, prevention cost, and appraisal cost?
a) 120, 35, 37, 50 b) 37, 95, 120, 40 **c) 95, 37, 13, 45** d) 120, 13, 45, 40

408. Prevention cost iv) Efforts spent on reviews and testing
a) a-iv b-iii c-ii d-I b) a-iv b-ii C-iii d-I **c) a-ii b-iv c-i d-iii**

Top of Form
409. Software Engineering is concerned with_____.
a) Process b) Methods c) Tools **d) All of the above**

410. Static verification of code is not likely to reveal
a) Logic errors b) Syntax errors **c) Performance errors** d) Coding standard violations

411. Which factor among the following has least effect on the testability of a software?
a) Decomposability **b) Efficiency** c) Understand ability d) Observability

412. Identification of inputs which cause anomalous behaviour in the outputs indicating the existence of defects is

a) Static Testing b) White Box Testing **c) Black Box Testing** d) Interface testing

413. In unit testing which of the following is the strongest testing strategy?
a) Statement coverage b) Branch Coverage c) Condition Coverage **d) Path coverage**

415. Selection of test paths according to definition& usage of different variables in the program is called
a) Path coverage testing b) Condition Coverage testing
c) **Data Flow Testing** d) Branch Coverage Testing

416. Compared to small team projects large team projects are
a) More sensitive to programmer ability **b) less sensitive to programmer ability**
c) Not sensitive to programmer ability d) None of these

417. Which version of COCOMO develops estimates for large projects as sum of estimates of its various subsystems by considering the differences in the complexities of its various sub systems?
a) Basic COCOMO b) Intermediate COCOMO
c) Complete COCOMO d) None of the above

418 Structural approach is also known as
a) Glass box testing b) Black box testing
c) Input box testing d) Output box testing Top of Form

419. Ability of a software to perform stated function under stated condition for a stated period of time
a) Efficiency b) Robustness **c) Reliability** d) Correctness

420. Among the following types which is the most undesirable form of coupling
a) Stamp Coupling b) Common Coupling c) Content Coupling **d) Control Coupling**

421. Which of the following would NOT appear as a symbol on a flowchart?
a) **Data type** b) Decision c) Input/output d) Processing

422. All of the following are control structures used in structured programming, EXCEPT
a) Iteration b) Selection c) Sequence **d) Go to**

423. In _____, the tester can analyse the code and use knowledge about the structure of a component to derive test data
a) Black box **b) White box** c) Stress testing d) None of the above

424. What are the components of a thin client model in Client/Server architecture? a) Client (Presentation) –Server (Data Management, Application Processing)
b) Client (Application Processing) – Server (Data Management)

c) Client (Data Management) –Server (Application Processing)
d) Client (Application Processing) – Server- Client (Data Management)

425. Iterative method contains the feature of
a) Water fall method **b) Prototype method** c) Both d) None

426. Which of following order is true in software engineering life cycle
a) **SRS, Design, Coding, Testing** b) Design, Coding, Testing, SRS
c) SRS, Design, Testing, Coding d) Coding, Testing SRS, Design

427. Which is the most commonly used debugging approach?
a) Brute force b) Back tracking c) Cause elimination d) None of the above

428. Four important characteristics of a software product are a) Dependability, usability, reliability, robustness
b) Maintainability, dependability, efficiency, usability
c) Supportability, maintainability, visibility, rapidity
d) None of the above

429. Enough time will be left at the end of the project to uncover errors that were made Because we rushed through the _____ process. The moral is: Don't rush Through it! _____ is worth the effort. (Clue: both the blanks to be filled by The same word)
a) Coding b) Design c) Testing d) None of the above

430. Who should perform the validation test?
a) Software developer b) Software user
b) c) A group of developers and users d) None of the above

431 Find the activity, which is not part of version management
a) Controlled change b) Storage management c) Coding standard d) None of the above

432. Testing
a) Installs guilt b) Is punishment c) Is to find errors d) None of the above

433. Which is more important?
a) Product b) Process c) Quality d) None of the above

434. The sooner you begin _____, the longer it will take to get done.
a) Coding b) Testing c) Design d) None of the above

435. Verification is to check
a) Whether we are building the right product

b) Whether we are building the product right
c) Neither of the above
d) None of the above

436. Pick up the correct sequence of processes
a) Requirements, Analysis, Test case design, Design
b) **Requirements, Analysis, Design, Test case design**
c) Requirements, Test case design, Analysis, Design
d) None of the above

437. A software quality assurance activity that is performed by software engineers
a) Coding b) Formal technical reviews c) Design d) None of the above

438. In what manner, coding and testing are done
a) Top-down b) Bottom-up c) Cross-sectional d) Adhoc

439. Which of the following is generally not contained in a feasibility document a) Problem descriptions b) Project name
c) Feasible alternative solutions d) Data-flow diagrams

440. The initiation of a systems investigation may result from
a) An analysis investigation b) A manager's formal request
c) Scheduled system review d) All of the above

441. Which of the following is not a factor in the failure of a systems development Project? a) Inadequate user involvement b) Failure of systems integration
c) Size of the company d) Continuation of a project that should have been cancelled
442. "The probability of failure free operation of a computer program in a specified Environment for a specified time" is the definition for
a) Quality b) Reliability c) Operability d) None of the above

443. The four icons used in building Data Flow Diagram are
a) Flow, Source, Store, Process b) Flow, Process, Source, Store
c) Flow, Process, Source/Destination, Store d) Source, Process, Destination, Store

444. Which of the following is (are) not a tool for Application Prototyping?
a) Application generates b) Third generation language
c) Screen generators d) Report generators

445 All of the following tools are used for process description except
a) Structured English b) Decision tables c) Pseudo code Data Dictionaries

446. Which of the following activities does not belong to the Implementation phase of the SDLC?
a) File conversion b) Program testing c) User training d) All of the above

447. Which of the following is not true of the conversion phase of the development life Cycle?
a) The user and systems personnel must work closely together
b) Steps must be taken to phase out the old system
c) Documentation should be emphasized
d) The non-machine components of the system should be considered

448. Benchmarking is used
a) To select computer systems
b) To maintain files is p-to-date condition
c) For application proto-typing
d) For system acceptance

449. Which is the first phase of the Waterfall software process model?
a) Design b) Prototype c) Testing d) Requirement

450. What is the purpose of use cases in UML?
a) Requirements of capture
b) Define how the software system will be used
c) Describe what the user expects to do with the system
d) Make clear what the stakeholders needs are

451. With their correct characteristics:
Y1: Risks are assessed and activities put in place to reduce the key risks
Y2: Specific objectives for the phase are identified
Y3: The project is reviewed and the next phase of the spiral is planned
Y4: A development model for the system is chosen which any can be of
The generic models
a) X1-Y3 X2-Y1 X3-Y2 X4-Y4
b) X1-Y2 X2-Y3 X3-Y4 X4-Y1
c) X1-Y2 X2-Y1 X3-Y4 X4-Y3
d) X1-Y3 X2-Y2 X3-Y1 X4-Y4

452. Indicate what information is provided by Functional requirements?
X1: The constraints on the services or functions offered by the system such as Timing constraints
X2: How the system should behave in particular situation
X3: The constraints on the development process, standards
X4: How the system should react to particular inputs
a) X2, X4 b) X1, X2, and X4 c) X1, X3 d) X2, X3, and X4

453. Function point is
a) A pointer to a function
b) A point where the function is written in a code
c) A method of estimating the amount of functionality required for a program
d) A function named "point"

454. A system version
a) Is an instance of a system deployed at the client side

b) Is an instance of a system that differs in some way from other instances
c) Should either include new functionalities or should be intended for a different hardware platform
d) Is created to fix reported faults as part of development process

455 What is synchronization control in configuration management? a)
It governs which software engineer have the authority to access & modify a
b) Particular configuration object
c) It helps to ensure that parallel changes performed by two different people don't overwrite one another
d) It synchronizes two different system versions to form a single versions
e) It helps to synchronize the source code files to form deployable version

456 The currently known containment effectiveness of faults introduced during each Constructive phase of software development for a particular software product is Ratio of
(Actual project duration) to (estimated project duration)
(Number of pre-release Defects) to (number of pre-release Defects) to (number of pre-release Defects + number of post release Defects)
(Number of phase i errors) to (number of phase i errors + number of phase i defects) (Number of failure) to (Execution time)

457 SRS is maintained in configuration environment as
a) Software design baseline b) Software development baseline
c) Software artefact's d) Software product baseline

458 Following is the SCM audit tool
a) Requirement metrics b) PERT charts c) Source Code d) Design Document

459 Delphi method of cost estimation uses
a) Functional point analysis b) SLOC expressed in KDSI
c) PERT model using effort calculations d) Decomposition method of cost estimation

460 Validate that the functions meet started requirements or not is called as _____
a) Unit testing b) System testing c) Integration Testing d) Acceptance Testing

461 What do you mean by incremental testing?
a) White box testing b) Black box testing c) Top-down testing d) Independent testing

462 Verification should be performed for _____
a) Requirements b) Design c) Code construction d) All of the above

463 Validation is mostly used to determine the _____ of the final software/program.
a) Correctness b) Consistency c) Completeness d) Quality

464. Quality control procedures are _____
a) Preventive costs b) Appraisal costs c) Failure costs d) None of the above

465. Who should be involved in determined risk management?
a) Customer b) Management c) Development team d) All of the above

466. Which of the following is an attribute of Quality? a) Process b) Product c) Standard d) Policy

467. The system design SDLC phase is immediately followed by _____ a) Program and training b) Initiation c) Standard d) Policy

468. Resource planning, audit planning, estimation, scheduling are the some of the tasks carried out in_____
a) Initiation phase b) System design phase c) Definition phase d) Evaluation phase

469 System reviews and software testing are examples of _____
a) Quality control b) Quality assurance c) Quality audits d) None of the above

470. _____ is done without executing the code.
a) Registration b) Unit c) System d) Static

471. Which of the following is not a white box testing technique?
a) Statement coverage b) Equivalence Partitioning
c) Decision/condition coverage d) Multiple condition coverage

472. Which of the following task is not performed by v & v management?
a) Create the software v & v plan b) Conduct the management review of v & v
c) Support management and technical reviews d) Conduct in-process reviews

473. A standard must be _____
a) Measurable, Attainable and critical b) Smart, Measurable and Time-bound
b) Measurable, Achievable and Clear d) Approved, Available and Attainable

474. Which are the four primary standards of ISO 9000?
a) ISO 9000, ISO 9001, ISO 9004, ISO 10010 b) ISO 9000, ISO 9001, ISO 9006, ISO 10011
c) ISO 9000, ISO 9001, ISO 9004, ISO 10011 d) ISO 9000, ISO 9001, ISO 9004, ISO 10054

475. Cost of quality includes _____
a) Preventive, Corrective & control b) Preventive, detective & control
c) Preventive, appraisal & failure d) None of the above

476. AQL stands for?

a) Allowable quality level b) Allocated quality level
c) Acceptable quality level d) Allowed quality level

477. Quality assurance is a function responsible for _____.
a) Controlling quality b) Managing quality c) Inspections d) Removal of defects

478. _____ is used to perform structured analysis and to document the result.
a) DFD b) UML c) COCOMO d) None of the above

479. Reverse engineering of data focuses on _____
a) Database structures b) Internal data structures c) Both 1 & 2 d) None of the above

480. System Test will not include_____
a) Approach b) Risks c) Suspension and Resumption criteria d) None of the above

481. As series of definable, repeatable and measurable tasks leading to useful result is called _____
a) Program b) Process c) Activity d) Controller

482. The first step in project planning is to _____
a) Determine the budget b) Determine the project constraints
c) Establish the objectives and scope d) Select a team organizational model

483. Which of the following is a characteristic of a good decision? a) Includes test cases for all components
b) Exhibits strong coupling between its modules
c) Implements all requirements in the analysis model
d) Incorporates source code for descriptive purposes

484. Which of the following characteristics of a strong deign?
a) Low coupling b) High cohesion c) Modular d) All of the above

485. Which of the following is a disadvantage of outsourcing? a) Reduces technical know-how for future innovation
b) Increases degree of control
c) Increases vulnerability of strategic information
d) Increases dependency on other organizations

486. If a linear process models all steps come after finishing of a step then that model called_____
a) Spiral b) Prototype c) Water fall model d) None of the above

487. Cyclamate Complexity method comes under which of the following testing method? a) White box b) Black box c) Green box d) Yellow box

488. Which of the following provides the foundation for team development?
a) Motivation b) Organizational development
c) Conflict management d) Individual development

489. Which of the following is a key to effective software engineering?
a) Good skills b) Good design c) Good Management d) None of the above

490. Estimation for the satisfaction of the identified user needs is known as _____ a) Feasibility study b) Requirements evolution
c) Requirements capture d) None of the above

491. Translating the algorithm into a programming language occurs at the _____ step of the SDLC
a) Debugging b) Coding c) Testing and Documentation d) Algorithm Development

492. Who designs and implement database structures?
a) Programmers b) Project managers c) Technical writers d) Database administrators

493. The _____ determines whether the project should go forward or not a) Feasibility assessment b) Opportunity identification
c) System evaluation d) Program specification

494. Actual programming of software code is done during the _____ step in the SDLC
a) Maintenance and Evaluation b) Design
c) Analysis d) Development and Documentation

495. Evolutionary software process models _____ a) Are iterative in nature
b) Can easily accommodate product requirements changes
c) Do not generally produce throwaway systems
d) All of the above

496. Which of the following is not a part of testing?
a) White box testing b) Black box testing c) Inner testing d) Gorilla testing

497. Quality assurance_____
a) Focuses on removal of defects before release
b) Is a set of planned and systematic actions to provide confidence that a product or service will satisfy given requirements for quality
c) Is to check the system for its interface errors
d) None of the above

498. _____ is the chain of activities that determines the duration of the project
a) Object points b) LOC c) Lines of code d) Critical path

499. Debugging is a consequence of _____ a) An unsuccessful test
b) An error in design
c) A successful test
d) A metric that describes the degree to which a software product meets its requirements

500. In object-orientation, polymorphism means _____ a) There can be many objects in the design
b) Methods can be changed in many ways
c) Many ways can be instantiated of a class
d) Objects can implement the same method in many ways

501. The spiral model of software development_____ a) Ends with the delivery of the software product
b) Is more chaotic than the incremental model
c) Includes project risks evaluation during each iteration d) All of the above

502. The objective of software project planning is to _____ a) Convince the customer that a project is feasible
b) Enable a manager to make reasonable estimates of cost and schedule
c) Make use of historical project data
d) Determine the probable profit margin prior to bidding on a project

503. Which of the following is not a section in the standard for SQA plans recommended by IEEE?
a) Documentation b) Reviews and audits c) Test d) Budget

504. Which of the following tasks is not part of software configuration management?
a) Change control b) Reporting c) Statistical quality control d) Version control

505. How many steps are in the program development life cycle (PDLC)?
a) 4 b) 5 c) 6 d) 10

506. _____ is a measure of independence of a module or component?
a) Cohesion b) Coupling c) Loop coupling d) Loop cohesion

507. The purpose of requirement phase is _____
a) To freeze requirements b) To understand user needs
c) To define the scope of testing d) All of the above

508. A modular design has _____
a) High cohesion, low coupling and high abstraction
b) High cohesion, low coupling and low abstraction
c) Low cohesion, low coupling and high abstraction

d) High cohesion, high coupling and high abstraction

509. The outcome of the analysis phase is
a) **Sufficient understanding of the problem to write a design specification.**
b) Sufficient understanding of the problem to write a formal description of it.
c) Sufficient understanding of the problem to suggest a solution (or solutions)
d) Sufficient understanding of the problem to write a code specification.

510. Corrective maintenance is related to a)
Making the system more functional
b) **Correcting the fault that could not be found during testing**
c) Making the system work in new environment
d) All of the above

511. Testing is done with the objective of _____.
a) **Finding new errors in the software** b) Correcting errors in the software
c) Both 1 and 2 d) None of the above

512. If a software had 5 failures in 100 tests during 10 days of testing (Assume 10 tests Per day), what would be a good estimate of the reliability of the software over the Next week? (Assume 5 working days in a week)
a) 0.0275 b) 0.5987 **c) 0.0769** d) 0.9500

513. A requirements specification is
a) A general list of things that the proposed software ought to do
b) **A precise and mathematical list of things that the proposed software ought to do**
c) A formal list of things that the proposed software must do
d) A list of software and hardware resources needed for completing the proposed system

514. Which of the following is the input to the feasibility study?
a) Outline description of the system
b) Set of preliminary business requirements
c) How the system is intended to support business process d) **All of the above**

515. Assuming that the tests are representative of the operational situation, then calculate the Reliability of a software system that has had 10 failures in 200 test cases.
a) 0.95 b) 0.9 c) 0.1 d) 1

516. A critical task is one with_____
a) Minimum slack time b) Maximum slack time **c) No slack time** d) None of the above

517. Which of the following is identified as critical for success in software development process? a) Adopting SDLC configuration management b) Adopt Continuous risk management

c) Both 1 and 2 d) Choice 2 only

518. How maintainability can be achieved? a) Through Error recovery

b) When the S/W process evolves to reflect changed organizational requirements or identified process improvements

c) Both 1 and 2

d) None of the above

519. Which testing methods are used by end-users who actually test software before they use it?

a) White Box testing **b) Alpha and Beta testing** c) Black box testing d) Trial and Error testing

520. What do you mean by non-functional requirements? a) User requirements

b) Requirements definition

c) **A timing constraint placed on the system or the use of a specific language during Development**

d) None of the above

521. The project plan should be regularly revised during the project.

a) Yes b) No

c) It cannot be changed, it is to be followed d) It is made only once at the start of project

522. A program's control flow structure indicates_____

a) Correct program

b) **The sequence in which the program's instructions are executed**

c) High-level language programming

d) All of the above

523. Bar charts and activity networks are graphical notation which are used to illustrate the

a) Project Plan b) Project dependencies **c) Project Schedule** d) Project Risk Analysis

524. Which factor is not contributing to software crisis?

a) Larger problem sizes b) Skill shortage

c) Low productivity improvements **d) None of the above**

525. Spiral mode_____ a) Is an example of exploratory programme

b) **Is characterized by the assessment of management risk items**

c) Both 1 and 2

d) None of the above

526. Cohesion is_____

a) Measure of quality

b) Concept related to testing

c) Understandability
d) **Measure of closeness of the relationships between the system's components**

527. Which term defines the process of project compliance with policies and procedures? a) Quality control b) Quality assurances
c) Quality audits **d) Quality control management**

528. Which of these terms apply to identify quality standards and how to satisfy them?
a) Quality projections **b) Quality management** c) Quality overview d) Quality planning

529. Acceptance test plan is_____
a) Most likely to arise from the requirements specification process
b) Most likely to arise from the System integration
c) Both 1 and 2
d) None of the above

530. Visibility of design means_____
a) Efficient design b) Less complex design
c) Good quality, consistent document **d) None of above**

531. Project quality management includes _____
a) All activities of the performing organization that determines policies and responsibilities of a project
b) Performance quality control
c) Error detection
d) None of the above

532. Important distinction between the spiral model and other software process model is a) Explicit consideration of planning next phase
b) Explicit consideration of Validation
c) **Explicit consideration of Risk Assessment and Reduction**
d) Explicit consideration of Objective setting

533. Capability maturity model_____ a) Gives description for software process
b) **States what activities are necessary for success**
c) Describes how activities are to be performed
d) Compare essential difficulties of software

534. Validations is to check_____
a) Whether we are building the product right **product** **b) Whether we are building the right**

c) The methodology of software development d) The methodology of software testing

535. Which lifecycle model would you use for developing a commercial web site that requires About 8 months of effort from a team of 6 people?

a) Opportunistic **b) Waterfall** c) Incremental d) Spiral

536. Deliverables are usually milestones but milestones need not be deliverables

a) **True** b) False c) May be true d) None of the above

537. The execution of every possible test case is called as _____

a) Static analysis b) Dynamic testing c) Structural testing **d) Exhaustive testing**

538. Configuration Management is not related with

a) Controlling changes to the source code
b) **Choice of hardware configuration for an application**
c) Controlling documentation for an application
d) Maintaining versions of software

539. Which of the following statement is correct?

a) The project schedule is usually represented a set of charts showing the work.
b) The project schedule is usually represented as a set of charts showing the activities Dependencies and staff allocations
c) The project schedule is usually represented as a set of charts showing the work breakdown and activities dependencies
d) **The project schedule is usually represented as a set of charts showing the work Breakdown, activities dependencies and staff allocations**

540. Which is true about regression testing?

a) Regression testing is carried out if the system underline is an upgraded or corrected Version
b) Regression testing checks that there is no side effect after changes c) **Both 1 and 2**
d) None of the above

541. Which of the following is true about integration testing?

a) Integration testing aims to find out the errors related to various module interfaces
b) Integration testing is a kind of testing, which is carried out while constructing or integrating the system
c) **Integration testing is a kind of testing, which is carried out after constructing or integrating the system**
d) Both 1 & 2

542. Which of the following is not a queued message?

a) WM_TIMER b) WM_QUIT c) WM_COMMAND **d) None of these**

543. Which of the following is not a resource?

a) Bitmap b) Dialog box Template c) Html document **d) None of these**

544. Which of the following the resource?
a) Bitmap b) Html document c) Dialog templates d) All of the above.

545. Which function is used to compare the regions?
a) Equal to b) EqualRgn c) CompareRgn d) CmpRgn

546. Which of the following is non queen message?
a) WM_COMMAND b) WM_QUIT c) WM_TIMER d) All of the above

547. Which function is used to convert white to black and black to white?
a) Convert b) Invert c) Insert d) None of above

548. Which API is used to copy and stretch the bitmap?
a) Bible b) StretchBlt c) Patblt d) None of above

549. Which of the following is a resource?
a) Bitmap b) Dialog box template c) Html document **d) All of the above**

550. By default polygon is?
a) Dot-dash **b) Solid** c) Transparent d) None of the above

551. Begin thread present in which header file?
a) Winuser.h b) Window's **c) Process's** d) None of the above

552. What function to stretch the bitmap is used?
a) Stroll () b) Bit blt **c) Stretchable ()** d) Bitmap

553. Which of the following not Virtual key?
a) VK_PREV b) VK_NEXT c) VK_UP d) None

554. Which of the following is the blocking function?
a) Get message () b) Post quit message ()
c) Dispatch message () d) Translate message ()

555. To achieve a good design, different modules should have _____.
a) Weak cohesion and low coupling b) Weak cohesion and high coupling
c) Strong cohesion and low coupling d) Strong cohesion and high coupling

556. Spiral model _____
a) Is an example of exploratory programming?
b) **Is characterized by the assessment of management risk items.**
c) Both 1 and 2

d) None of the above

557. Cohesion is _____. a) Measure of quality
b) Concept related to testing
c) **Understand ability**
d) Measure of closeness of the relationships between the system's components.

558. The data items that are exchanged between the different functions are represented as
a) Design phase **b) DFDs** c) ER Diagram d) Data Structure

559. Which of the following software development life cycle shows high amount of risk analysis?
a) Water fall model **b) Spiral model** c) V – Shaped model d) Incremental model

560. Design phase will usually be _____.
a) Bottom-up **b) Top-down** c) Random d) Centre fringing

561. Software engineering principles are based on _____.
a) Error correction b) Error prevention c) Error detection **d) None of the above**

562. Which of the following are SDLC process models?
a) Waterfall b) V-shape c) Spiral **d) All of the above**

563. Deployment of a system refers to
a) Activities performed in system testing
b) Implementing the design into executable codes
c) **The transition of the system from its development phase to the operational phase.** d) None of the above

564. Please match the Spiral model sectors: (X-Y)
X1: Objective setting
X2: Risk assessment and reduction
X3: Development and validation
X4: Planning with their correct characteristics:
Y1: Risks are assessed and activities put in place to reduce the key risks
Y2: Specific objectives for the phase are identified
Y3: The project is reviewed and the next phase of the spiral is planned
Y4: A development model for the system is chosen which can be any of the generic models a) X1-Y3, X2-Y1, X3-Y2 X4-Y4 **b) X1-Y2, X2-Y3, X3-Y4 X4-Y1**
b) c) X1-Y2, X2-Y1, X3-Y4 X4-Y3 d) X1-Y3, X2-Y2, X3-Y1 X4-Y4

565. The requirement should specify _____
a) Why **b) What** c) How d) All of the above

566. V Shape Model_____

a) Builds the throwaway version intend to test concept & requirements
b) Adds risk analysis, and 4gl RAD prototyping to the waterfall model
c) **Is a variant of the Waterfall that emphasizes the verification and validation?** d) None of the above

567. Just as the entry point to a C program is the function main(), the entry point to a Windows program is _____.(Win Main())

568. The three main Windows libraries are _____, _____ & _____. (Kernel.32, User32, GDI32)

569. The size of Unicode character is ___ bits. (32)

570. Create Window () function sends the _____ message. (WM_CREATE)

571. Update Window () function sends the _____ message. (WM_PAINT)

572. Post Quit Message () function posts the _____ message. (WM_QUIT)

573. Get Message () function retrieves a message from the _____. (Message queue)

574. Translate Message () function is used for _____ translation. (Keyboard)

575. Window procedure function is a _____ function. (CALLBACK)

576. TA program can call its own window procedure by using the _____ function. (Send Message)

578. Dispatch Message () function passes the MSG structure back to _____. (Windows)

579. The very first message that a window procedure receives is _____. (WM_CREATE)

580. Register Class () associates a window procedure to the _____. (window class)

581. Everything that happens to a window is relayed to the _____ in the form of message. (Window Procedure)

582. _____ API is used for sub classing. (Set Window Long())

583. _____ API is used for character translation of keystrokes. (Translate Message())

584. Message _____ occurs when the user clicks an item on the menu bar or presses a menu key.(WM_INITMENU)

585. _____ API is used to kill a modal dialog box. (End Dialog())

586. _____, _____ and _____ are windows resources defined in a .Res file. (Any three of these –ICON / CURSOR / STRINGTABLE / DIALOG / MENU / BITMAP)

587._____ API is used to set the text of an edit control. (Set Window Text())

588. _____ And _____ are GDI objects.
(Any two from Brush / Pen / Region / Font / Palette / Bitmap)

589. When there is no message in the queue, Peek Message () function returns ____. a) True b) False

590. System keystrokes are generated for keys typed in combination with the ____ key. (Alt)

591. System keystroke messages are _____ and _____. (WM_SYSKEYDOWN, WM_SYSKEYUP)

592. The virtual key code is stored in the _____ parameter of the WM_KEYDOWN message. (wParam)

593. The repeat count field is stored in the _____ parameter of the keystroke messages. (lParam)

594. _____ Function is used for checking the type of information available in clipboard. (Is Clipboard Format Available ())

595. _____ Function is used to open the clipboard. (Open Clipboard())

596. _____ Function is used to clear the clipboard. (Empty Clipboard ())

597. _____, _____ and _____ are windows resources defined in a .Res file. (Any three of these -ICON / CURSOR / STRINGTABLE / DIALOG / MENU / BITMAP)

598. _____ Function is used to clear the clipboard. (Empty Clipboard())

599. Get Message () returns_____, when it retrieve WM_QUIT message form the messagqueue. (0)
(window class)

600. Window messages are defined in both windows.h and _____ header files. (winuser.h)

601. The repeat count field is stored in the _____ parameter of the keystroke messages.

(lParam)

602. Software acts with a dual role as –
a) Application software and embedded software
b) Embedded software and Product-line software
c) **Software product and Environment or application tool for software product development**
d) Application software and Data storage

603. Software Engineering encompasses -
a) **Process, Methods, and Tools** b) Process, Product, and Methods
c) Methods, Tools, and People d) People, Process, and Product

604. Which one of the following is correct list of prescriptive process model?
a) Waterfall, Incremental, Spiral, b) Waterfall, V-shaped, Prototyping
c) Prototyping, Spiral, Adaptive S/w development **d) Waterfall, Incremental, V-shaped**

605. Customer needs important functionality to be implemented at earliest?
a) Waterfall b) Prototyping **c) Incremental** d) RAD

606. Risk analysis and 4gl RAD prototyping is added to the waterfall model to form a -------- model
a) Spiral b) Prototyping c) V-shaped d) RAD

607. ------ model is a variant of the Waterfall model, which also emphasizes the verification and validation
a) Waterfall b) Prototyping c) Incremental **d) V-shaped**

608. Requirement should specify
a) Hardware required to complete the project
b) Resource requirement
c) **A precise and mathematical list of things that describes what proposed software should provide**
d) Description of how to develop the system

609. Stakeholders are asked to rank / prioritise requirements & discuss conflicts in priority in ------- stage of requirement engineering.
a) Conflict resolution b) Elaboration c) Specification **d) Negotiation**

610. Use-cases are defined from ------ point of view
a) An actor's b) A function's c) An actor and functions d) None of the above

611. Product requirements, Organizational requirements, & External requirements are example of
a) Domain requirements **b) Non-functional requirements**
c) Functional requirements d) None of the above

612. Which of the following models collectively form the design model?

a) Data design, Architectural design, Interface Design, Component Design

b) Data design, Architectural design, System design, Program design

c) Architectural design, Interface Design, Functional design, Class design **d)** None of the above

613. Which of the following is FALSE statement?

a) Abstractions allows designers to focus on solving a problem without being concerned about irrelevant lower level details

b) Modularity is ability to understand the software by examining its components independently

c) **Control hierarchy represents the procedural aspects of the software** d) None of the above

614. Coupling is --

a) Qualitative indication of the degree to which a module focuses on just one thing

b) **Qualitative indication of the degree to which a module is connected to other modules & to outside world**

c) Both 1 & 2

d) None of the above

615. Validation process checks –

a) Whether we are building the right product b) Whether we are building the product

c) Whether we are building the product right d) Whether we are testing the product

616. Smoke testing is an ----- testing approach, which is used when software is being developed a) Unit testing b) Regression testing **c) Integration testing** d)Acceptance testing

617. ------- is conducted at developer's site by end-users

a) Beta testing **b) Alpha testing** c) White box testing d)None of the above

618. Unit testing is

a) A Black box testing **b) A White box testing**

c) An User Acceptance Testing d) Not a testing

619. ---- provides the maximum number of test cases that will be required to guarantee that every statement in program has been executed at least once.

a) Independent Program paths **b) Cyclamate complexity**

c) Graph Matrices d) None of the above

618. Reliability is indicated by following attributes -

a) Maturity, fault tolerance, recoverability b) Understand ability, learnability, accuracy

b) Suitability, accuracy, compliance d) All of the above

619. Warranty work is an example of -----

a) Prevention cost **b) External failure cost** c) Internal failure cost

d) Appraisal Cost e) All of the above

621. Match the following

a) Internal failure cost i) Efforts spent in post-delivery defect fixing
b) Appraisal Cost ii) Efforts spent in pre-delivery defect fixing
c) External failure cost iii) Efforts spent on quality planning, tools development & training
d) Prevention cost iv) Efforts spent on reviews and testing

a) a-iv b-iii c-ii d-I b) a-iv b-ii c-iii d-i
c) a-I b-iii c-ii d-iv **d) a-ii b-iv c-i d-iii**

622. There are --- levels of CMMi

a) 5 b) 3 c) 1 d) 6

623. The objective of project planning is to provide a) Hardware & software requirement
b) Framework that helps to make reasonable estimates of resources, cost and schedule
c) Only the list of risks identified
d) None of the above

624. Pick up the correct statement from following
a) Project estimates should not be updated during project development
b) Project estimates should be updated only at the end of the project
c) **Project estimates should be updated as the project progresses** d) None of the above

625. The purpose of project management is –

a) Prediction and prevention b) Prediction and reaction
c) Recognition and reaction d) None of the above

626. Software project management is ------- within SDLC

a) A phase **b) An umbrella activity** c) A milestone d) None of the above

627. Which one of the following is FALSE STATEMENT?
a) Gantt charts are often used for displaying the project schedule
b) Gantt chart shows both planned and actual schedule information
c) **CPM is used for finding total project cost**
d) Critical path is the longest path through the network diagram

628. In Software project management, 4 Ps have to be managed in following order -

a) Project, People, Product, Process b) Process, Problems, People, Product
c) People, Product, Process, Project d) Product, People, Process, Problem

629. Scheduling begins with ------Risk identification

a) Process decomposition **b) FP Estimation** c) COCOMO estimation

630. One of the limitations of FP analysis is

a) Evaluation effort is small b) Facilitates verification
c) Does not provide phase-wise break up d) None of the above

631. Which one of the followig nis true?
a) Deliverables are usually milestones but milestones need not be deliverables **b)** All milestones are deliverables
c) Deliverables & Milestones are always deliverables
d) None of the above

632. Risk assessment is done in
a) Analysis Phase b) Design Phase c) Coding Phase **d) All phases of the project**

633. Risk score (or Risk Exposure) is a product of
a) Probability of occurrence and Impact on project should the risk occur
b) No. of resources on project and daily per person rate
c) Probability of occurrence and total No of resources
d) None of the above

631. Risk assessment Process involves
a) Risk identification, Treating problems, Issue resolution
b) Identify problems, Resolve problems, Report problem
c) **Risk Identification, Assessment & Measurement, Planning, Tracking, Control** d) None of the above

632. In Risk management, the purpose of Risk Assessment is
a) **To convert risk data into decision making information**
b) To shift the impact of the threat to a third-party
c) To reduce probability and impact
d) To define roles and responsibilities

633. Software requirements should not be
a) Functional b) Ambiguous c) consistent

634. The decision logic is expressed by
a) Data flow diagram b) Flow chart c) Structure chart

635. Validation is to check
a) Whether we are building the product right
b) Whether we are building the right product
c) The methodology of software development

636. Corrective maintenance is to
a) Improve the system in some way without changing its functionality
b) Correct the undiscovered errors

c) Make changes in the environment

637. Analysis phase is
a) Not to actually solve the problem
b) Not to determine exactly what must be done to solve the problem
c) To move quickly to program design

638. Object models
a) Should include details of the individual objects in the system
b) Are part of design?
c) Are natural ways of reflecting the real world entities that are manipulated by the system?

639. The three classes of interface errors are:
a) Interface misuse, interface misunderstanding, timing errors
b) Interface misunderstanding, interface coupling, data transfer errors
c) Interface coupling, timing errors, interface parameter errors

640. Find the activity which is not part of version management
a) Controlled change b) Storage management c) Coding standard

641. Which is the non-technical factor of maintenance cost?
a) Program age b) Programming style c) Program validation

642. Software quality assurance is a)
A multi-tiered testing strategy
b) A measurement and reporting mechanism
c) An activity that is applied throughout the software process.

643. Most common but least effective way of debugging is
a) Brute force b) Backtracking c) Cause elimination

644. Equivalence partitioning is a)
A white-box testing method
b) A black-box testing method
c) Neither white-box nor black-box testing method

645. Doing what is said one would do, is the definition for
a) Reliability b) Quality c) Software plan

646. The typical elements of the requirements engineering process are
i) Problem analysis ii) Software design iii) Analysis of staffing needs iv) External behaviour specification
a) i and iv b) ii and iii c) i, iii and iv d) i, ii and iii

647 In object models, information hiding conceals

a) Operations b) Attributes c) Methods d) State and behaviour

Fill in the blanks :

648. _____ is an iterative process through which the requirements are translated into 649. A "blueprint" for constructing the software.

Answers the followings in brief:

650. Explain the concept of black box.
651. What are the qualities of software?
652. Give the various steps in prototyping.
653. What are the various fact-finding Techniques?
654. What are the types of decision tables?
655. What are the structures of Structured English?
656. Give a brief note on acceptance testing.
657. Define coupling and cohesion.
658. What is maintenance? Explain about various types of maintenance.
659. Differentiate between Decision Tree and Decision Table.
660. Give the coding guidelines.
661. Give the debugging approaches.
662. Why Software doesn't wear out.
663. Explain about Dos and Don'ts of good coding style.
664. Give the contents of SRS document.
665. Explain briefly about SEI CMM.
666. What is feasibility study? Explain about various aspects of feasibility.
667. Define normalization and explain about first three normal forms. 668. What is changeover? What are the types of changeover?
669. Differentiate between Black Box and White Box testing
670. Explain about Interview as a Fact Finding technique
671. What are the various factors that influence software cost-estimation?
672. Write a short note on structured charts.
673. Explain about the various concepts of a system.
674. Give Salient features of CASE tools.
675. Explain about various stages of software Development according to classical life cycle.

Answers the followings in detail:

675. Compare and contrast the two life cycle models viz. Waterfall and Spiral models. (Mention at least three distinct aspects).
677. State the importance of requirements management in a software development
678. Discuss and compare the coupling and cohesion in software design
679. Discuss the trade-off between error checking execution time / memory space overhead.
680. How can the overhead be reduced or eliminated?
681. Give some reasons for using global variables than parameters. What are the potential Problems created by the use of global variables?
682. Explain why it is very difficult to produce a complete and consistent set of requirements.

683. Discuss the differences between object-oriented and function-oriented design strategies 684. Explain why maximising cohesion and minimising coupling leads to more maintainable Systems 685. Show using a small example, why it is practically impossible to exhaustively test a Code.
686. List at least five distinct tests to exercise the various features of the PowerPoint Software used for slide preparation and projection.
687. Develop a high level data flow diagram for an airline reservation system

688 Develop test plan for the library management system (List at least five test cases). 689. Rewrite the following requirements so that they may be objectively validated. You may 690. Make any reasonable assumptions about the requirements.

a) The software system should provide acceptable performance under maximum load Conditions
b) Structured programming should be used for program development
c) The software must be developed in such a way that it can be used by inexperienced Users.

691. Model the data processing which might take place in an electronic mail system that can Send and receive messages from remote computers.
692. Discuss the advantages of incremental model as compared to water fall model.
693. Can a program be correct and still not be reliable? Explain
694. Discuss how you would approach the top-down design of a software system.
695. Discuss at least three reasons that would highlight the importance of software Maintenance.
696. Compare and contrast the white-box and black-box testing methods. 697. Discuss the importance of documentation in software development. 698. Discuss the pros and cons of the COCOMO model for cost estimation 699. Make a structure chart for the following:
700. Given an array of integers, arrange them in ascending order using quick sort method.
701. Develop a software review checklist for use by the designer and the implementer. What issues are important to each of these roles?
702. Develop an architecture and also flow diagrams (up to 2 levels) for the following:

"Consider the automation of the transaction at the registration counter of a post-office. A Scanner is provided to capture the "from" and "to" addresses from the envelop. The clerk uses your software to issue receipts to the customers. This is expected to reduce the Waiting time at the counter."

Suppose that a 50-KDSI (Thousands of delivered source instructions) application Program can be purchased for Rs. 2,000,000/-. Assuming that your in-house programmers Cost Rs.30, 000/- per programmer month (including overheads), would it be more cost Effective to buy the product or to build it?

A Manager decides to use the reports of code inspections as an input to the staff Appraisal process. These reports show who made and who discovered program errors. Is This ethical managerial behaviour? Would it be ethical if the staff were informed in advance? That this would happen? What difference might it make to the inspection process?

Apply a "stepwise refinement process" to develop three different levels of procedural Abstraction for developing a cheque writer that, given a numeric rupees amount, will print the amount in words that is normally required on a cheque.

703. Derive a set of test cases for a code which sorts arrays of integers. Draw a flow graph for an algorithm of your choice and derive its cyclamate complexities

A university intends to procure an integrated student management system holding all Details of registered 1students including personal information, courses taken, and Examination marks achieved. The alternative approaches to be adopted are either Buy a database management system and develop an in-house system based on this database.

a) Buy a system from another university and modify it to local requirements
b) Join a consortium of other universities, establish a common set of requirements and
c) Contract a software home to develop a single system for all of the universities in the Consortium. Identify two possible risks in each of these strategies.

704 Consider the error messages produced by MS-DOS or UNIX or WINDOWS operating System. Suggest how they might be improved.

705. Develop at least two levels of procedural abstraction for implementing the savings bank Transactions in a banking system.

706. Draw a flow graph for the following and find its cycloramic complexity: Given 1000numbers, arrange them in ascending order using any one of the sorting methods.

707. Oxford College of Commerce is an undergraduate college. The college receives sufficiently large number of application for admission to FY, SY and TY B. Com. Classes.

708. The college has decided to computerize its admission procedure. The standard admission Procedure requires adhering to the norms set by concerned government agencies, the University and the college administration. The procedure also involves disbursing admission Forms at a cost, collecting duly completed forms, preparing merit lists and admitting the Students as per norms, notifying student, collecting fees, preparing and submitting reports to concerned authorities. By carefully studying the case you are required to solve the following:

a) Draw a context level and first level DFD b) Identify the various reports required

709. Discuss the advantages and disadvantages of using the "antibugging" technique to provide built-in debugging assistance to uncover errors.

710. Contract a software home to develop a single system for all of the universities in the Consortium. Identify two possible risks in each of these strategies.

711. Design test cases for the following problem: Given a quadratic equation, solve it to find the roots.

712. Draw the context level diagram for a payroll system

713. Prepare Context diagram for the saving bank deposit and withdrawal system in a nationalized bank. Also draw the first level DFD for the same.

714. Rational College of Commerce is an undergraduate College. The college receives sufficiently large number of applications for admission to FY, SY and TY. B com classes.
The college has decided to computerize its admission program. The standard admission Procedure requires adhering to the norms set by concerned government agencies, the University and the college administration. The procedure also involves disbursing admission Forms at a cost, collecting duly completed forms, preparing merit list and admitting students As per norms, notifying students, collecting fees, preparing and submitting reports to the concerned authorities You are required to identify:
(i)Entities:
a) Processes b) Data flows c) Data Stores

715. Which SDLC Model is best suited when only part/some of the requirements are known at the beginning
a) Waterfall Model b) Incremental Model c) Prototype Model d) Spiral Model

716. In case of Bank, what will be the relationship between "Opening of Account" use case and "Deposit" Use case?
a) Uses b) Extends c) Includes d) None of the above

717 _____is an entity that is extemal to the system & directly interacts with the system and deriving some benefits from the interaction.
a) Actor b) Use case c) Class d) Relationship

718. Review activity of any software is under which kind of Testing?
a) Black Box Testing b) Static Testing c) Dynamic Testing d) White Box Testing

719. Equivalence Petitioning is a test case generation technique, for_____ kind of Testing Technique.
a) Static Testing b) White Box Testing c) Black Box Testing d) Red Box Testing

720. In the Project Management Triangle. Which parameter is most important?
a) Time b) Scope c) Cost d) All of the above are equally important

721. Quality assurance help for
a) Process improvement b) Testing
c) Removal of defects before release d) All of the above

722. Refers to the support phase of software development.
a) Adaption b) Enhancement c) Maintenance d) Actions

723. Which one of the following is the process of factoring the design module? a) Software re-engineering b) Configuration management
c) Software maintenance d) software Refactoring

724. Which of the following process is not part of Project Risk Management? a) Risk Identification b) Effort estimation
c) Risk Analysis d) Risk Response Development

725. Enhances performance 8. Functionality of the software after delivery.
a) Re-design b) Re-engineering c) Maintenance d) Post checking

726. Which of the following is not a stage of requirement engineering process? a) Feasibility study b) Requirement analysis
c) Requirement definition d) Implementation

727. Which of the following meetings is not part of Scrum? a) Product review meeting b) Sprint review meeting
c) Sprint planning meeting d) Sprint retrospective meeting

728. In Scrum, the prioritized work to be done is referred to as
a) Sprint planning b) Product backlog c) Sprint retrospective d) Standup meetings

729. Software risk impact assessment should focus on consequences affecting _____ a) Planning resources oost & schedule b) Marketability oost & personnel
c) Business, technology & process d) Performance support, oost & schedule

730. The process starting with the terminal modules is called_____ a) Top-down integration b) Bottom-up integration
c) Module integration d) None of the above

731. To check whether we are developing the right product according to the customer requirements or not. This is known as static process.
a) Validation b) Quality Assurance c) Verification d) Quality Control

732. A reliable system will be one:
a) That is unlikely to be completed on sdtedule b) That is unlikely to cause a failure
c) That is likely to be fault-free c) That is likely to be liked by the users

733. To test a function, the programmer has to write a passes it test data.
a) Stub b) Proxy c) Driver d) None of the above

734. When a new testing tool is purchased.it should be used first by: a) A small team to establish the best way to use the tool
b) Everyone who may eventually have some use for the tool
c) The independent testing team
d) The vendor contractor to write the initial scripts

735. Pick up IEEE the best definition of software engineering?

a) Set of computer programs. Procedures and possibly associated document conoemed with the operation of data processing.
b) Software engineering is Design Coding Development
c) Software engineering implement a single independent function
d) Software engineering is the establishment and use of sound engineering practice in order to produce
economical and reliable software that will perform n efficiently on real machine

736. Agile methods are known as
a) Predictive b) Adaptive c) Process Oriented d) Short term process methods.

737. The identification of stakeholders and user classes in requirements engineering is carried out in
a) Elicitation b) Analysis c) Verification d) Specification

738. Which among the following gives a chronological record of relevant details about the execution of tests?
a) Test incident report b) Test log c) Test summary report d) None of the above

739. What is not included in a System Requirement Specification Document?
a) Scope b) Specific Requirements c) Design Solutions d) References

740. Project risk factor is considered in
a) Spiral Model b) Waterfall Model
c) Prototyping Model d) Iterative enhancement Model

741. Formal Reviews of an individual product used to evaluate correctness based on its input criteria are
a) Inspections b) Checkpoint review c) Testing d) Walkthrough

742. Which of the below listed processes is not part of Project Planning
a) Identify Constraints b) Identify Algorithms c) Identify Risks d) Identify Milestones

743. Which Agile principle can help in chaordic situation?
a) Incremental Delivery b) Continuous Integration
c) PMO Policy d) Latest Technology

744. Which of c the Unified Process model for software development? a)
Inception phase b) Elaboration phase
c) Consumption phase d) Validation phase

745. Which of the following is not one of Hookers core principles of software engineering practice?
a) All design should be as simple as possible, but no simpler
b) A software system exists only to provide value to its users.

c) Pareto principle (20% of any product requires 80% of the effort)
d) Remember that you produce others will consume

746. Which of the following is valid reason(s) for collecting customer feedback concerning delivered software? a) Allows developers to make changes to the delivered increment
b) Delivery schedule can be revised to reflect changes
c) Developers can identify dwanges to incorporate into next increment
d) All of the above

747. Which of the following is not generally considered a player in the software process?
a) Customers b) End-users c) Sales people d) Project managers

748. Does an organization develop one lifecycle model?
a) For all the projects b) For each project c) For each do main

750. Find the odd one out of the following:
a) Step wise refinement b) Structural design c) Information hiding

751. Corrective main ten acne is to
a) Improve the system in some way without changing its functionality
b) Correct the undiscovered errors
c) Make changes in the environment

752. Analyse is phase is
a) Not to actually solve the problem
b) Not to determine exactly what must be done to solve the problem
c) To move quickly to program design

Basic

Q.1 From the following which quality deals with maintaining the quality of the software product?
a. Quality assurance **b. Quality control** c. Quality efficiency d. None of the above

Q.2 Function-oriented design is comprised of many smaller sub-systems is known as, Functions.
a. Yes b. No

Q.3 State if the followings are true or false.
For scheduling a project, it is necessary to:
1) Break down the project tasks into smaller, manageable form.
2) Find out various tasks and correlate them.
3) Estimate time frame required for each task. 4) Divide time into work-units.
a. True b. False

Q. 4 Software project manager is engaged with software management activities. He is responsible for _____ .
a. Project planning. b. Monitoring the progress

c. Communication among stakeholders **d. All mentioned above** e. None of the above

Q.5 Software is not considered to be collection of executable programming code, associated libraries and documentations.

a. True **b. False**

Q.6 Which quality deals with the maintaining the quality of the software product?

a. Quality assurance **b. Quality control** c. Quality Efficiency d. None of the above

Q.7 Choose the correct option according to given below statement.

Statement 1: Umbrella activities are independent of any one framework activity and occur throughout the process.

Statement 2: software quality assurance, software configuration management are umbrella activity.

Statement 3: software quality assurance, software configuration management are not umbrella activity.

a. Only statement 1 is correct. **b. Statement 1 and statement 2 are correct .**

c. Only statement 3 is correct. d. Statement 1 and statement 3 are correct.

Q.8 The interviews, which are held between two persons across the table is _____.

a. Written b. Non-structured c. Group **d. One-to-one**

Q.9 Which of these primary objectives have to be achieved for the requirement model?

a. To describe what the customer requires

b. To establish a basis for the creation of a software design

c. To define a set of requirements that can be validated once the software

d. **All mentioned above**

Q.10 When elements of module are grouped because the output of one element serves as input to another element and so on, it is called _____ .

a. Functional Cohesion b. Communicational cohesion

c. Sequential cohesion d. Procedural cohesion

Q.11 The spell check feature in word processor is a module of software.

a. True b. False

Q.12 CASE tools cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools.

a. True **b. False**

Q.13 Which tool consist of programming environments like IDE, in-built modules library and simulation tools?

a. Web development tools **b. Prototyping tools**

c. Programming tools d. Design tools

Q.14 Which depicts flow of control in program modules?
a. Flowchart b. DFD c. Both A & B d. None of the above

Q.15 Abbreviate the term HIPO.
a. Hierarchical Input Process Output b. High-level Input Process Output
c. Huge Input Process Output d. None of the above

Q.16 The total number of distinct operator and operand occurrences measures are used in _____ .
a. Lawrence theory **b. Halstead's theory** c. Kyburg, H. E. d. Jech, T.

Q.17 Hazard analysis focuses on the identification and assessment of potential hazards that can cause the _____ .
a. External problems b. Internal problems c. Both A & B d. None of the above

Q.18 Which model gives the overall reliability of the system that is projected and certified?
a. Sampling model b. Component model
c. Certification model d. Both A & B

Q.19 Which class gives a content or function change that corrects an error or enhances local content or functionality in change management?
a. Class 1 b. Class 2 c. Class 3 d. Class 4

Q.20 Which aspect is important when the software is moved from one platform to another?
a. Maintenance b. Operational **c. Transitional** d. All of the above

Q.21 A software project manager is a person who undertakes the responsibility of carrying out the software project.
a. True b. False

Q.22 From the following methods which size of the software product can be calculated?
a. Counting the lines of delivered code b. Counting delivered function points
c. Both A and B d. None of the above

Q.23 Which 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?
a. PERT chart b. Gantt chart c. Both A & B d. None of the above

Agile Software Development

1. Select the option that suits the Manifesto for Agile Software Development
a) Individuals and interactions b) Working software
c) Customer collaboration d) Responding to change **e) All of the mentioned**

2. Agile Software Development is based on

a) Incremental Development b) Iterative Development c) Linear Development d) Waterfall Model **e) Both a and b**

3. Which on of the following is not an agile method?
a) XP **b) 4GT** c) AUP
4. Agility is defined as the ability of a project team to respond rapidly to a change.
a) True **b) False**
5. How is plan driven development different from agile development?
a) Outputs are decided through a process of negotiation during the software development process.
b) Specification, design, implementation and testing are interleaved
c) **Iteration occurs within activities**

6. How many phases are there in Scrum?
a) Two **b) Three** c) Four d) Scrum is an agile method which means it does not have phases.

7. Agile methods seem to work best when team members have a relatively high skill level. **a) True** b) False
8. Which of the following does not apply to agility to a software process?
a) Uses incremental product delivery strategy b) Only essential work products are produced
c) Eliminate the use of project planning and testing

9. Which three framework activities are present in Adaptive Software Development (ASD)?
a) Analysis, design, coding b) requirements gathering, adaptive cycle planning, iterative development
c) speculation, collaboration, learning

10. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.
a) True b) False
11. Agile is
a) Sequential b) Iterative c) Incremental **d) Both b & c**

12. What is/are advantage/s of Agile testing?
a) Saves time
b) requires less planning and creates less documentation
c) Regular feedback from end users
d) Solves issue in advance by daily meeting
e) **All the above**

13. Who will test the system in agile development?
a) software tester b) Developer c) Business Analyst **d) All the above**

14. When acceptance testing is performed in Agile development?
a) On request of customer b) After system is ready
c) At the end of each iteration d) Daily

15 .In agile development, lengthy documentation is created. a) True **b) False**

16. Which skill are required by Agile tester?
a) Domain knowledge
b) Keen to learn and adopt new technology
c) Effective communicator who maintains good relationship with development teeam **d) All the above**

17. Who is responsible for sprint meeting?
a) Product owner b) Scrum team **c) Scrum master** d) All the above

18. Who prioritizes product backlog?
a) Product owner b) Scrum team c) Scrum master d) All the above

19. Arrange following scrum practices according to the order in which they are carried out.
1. Sprint planning
2. Daily scrum meet
3. Sprint retrospective meet
4. Sprint review meet
5. Sprint

a) 1,5,2,3,4 **b) 1,5,2,4,3** c) 1,2,5,4,3 d) 1,3,2,4,5

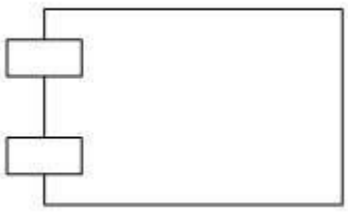
UML – 1

1. Which of the following UML diagrams has a static view?
a) Collaboration **b) Use case** c) State chart d) Activity

2. What type of core-relationship is represented by the symbol in the figure below?

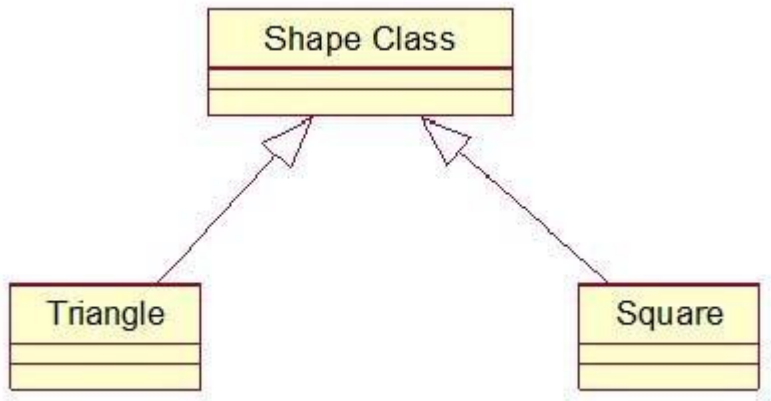
a) Aggregation b) Dependency c) Generalization d) Association

3. Which core element of UML is being shown in the figure?



a) Node b) Interface c) Class **d) Component**

4. What type of relationship is represented by Shape class and Square?



a) Realization **b) Generalization** c) Aggregation d) Dependency

5. Which diagram in UML shows a complete or partial view of the structure of a modelled system at a specific time?

a) Sequence Diagram b) Collaboration Diagram c) Class Diagram **d) Object Diagram**

6. Interaction Diagram is a combined term for

a) **Sequence Diagram + Collaboration Diagram** b) Activity Diagram + State Chart Diagram
c) Deployment Diagram + Collaboration Diagram d) None of the mentioned

7. Structure diagrams emphasize the things that must be present in the system being modelled.
a) True b) False

8. Which of the following diagram is time oriented?

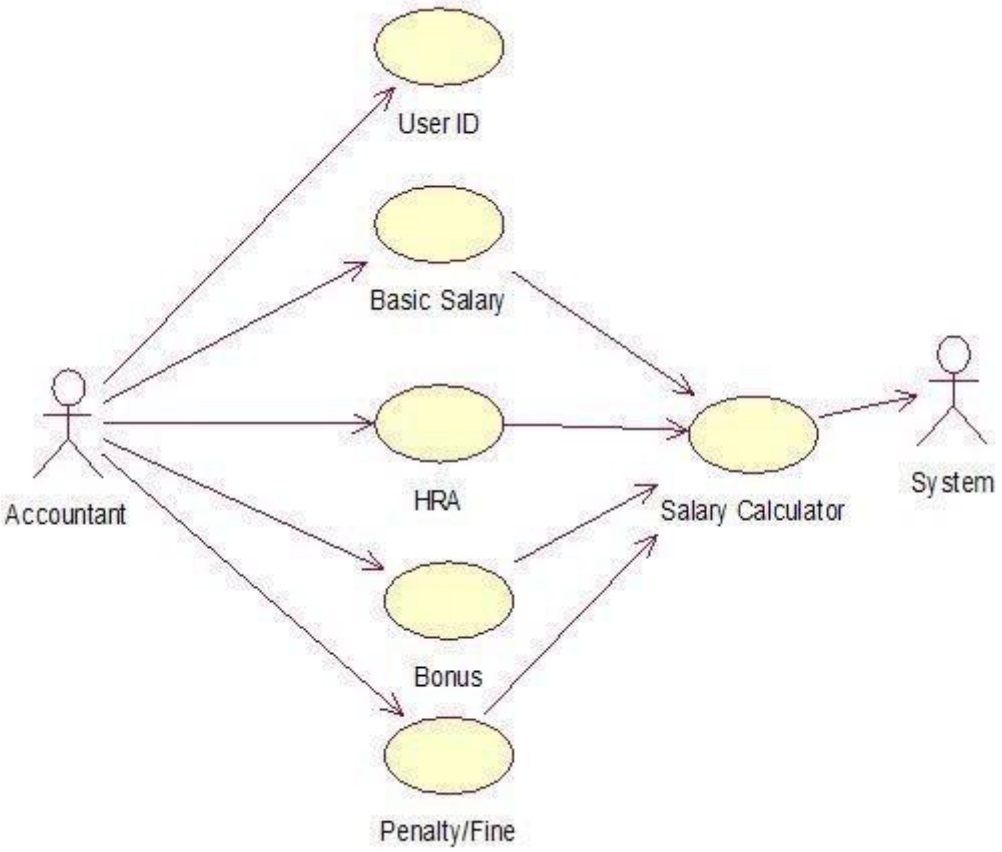
a) Collaboration **b) Sequence** c) Activity

UML – 2

1. How many diagrams are here in Unified Modelling Language?

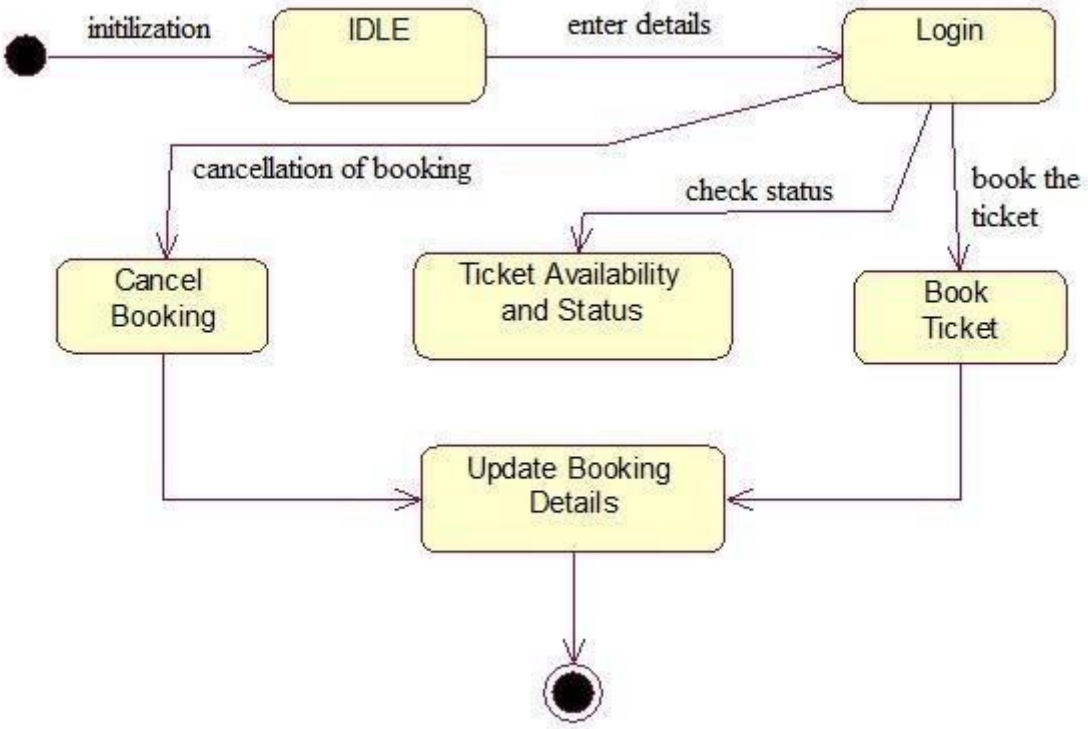
a) Six b) seven c) eight d) nine

2. Which UML diagram is shown below?



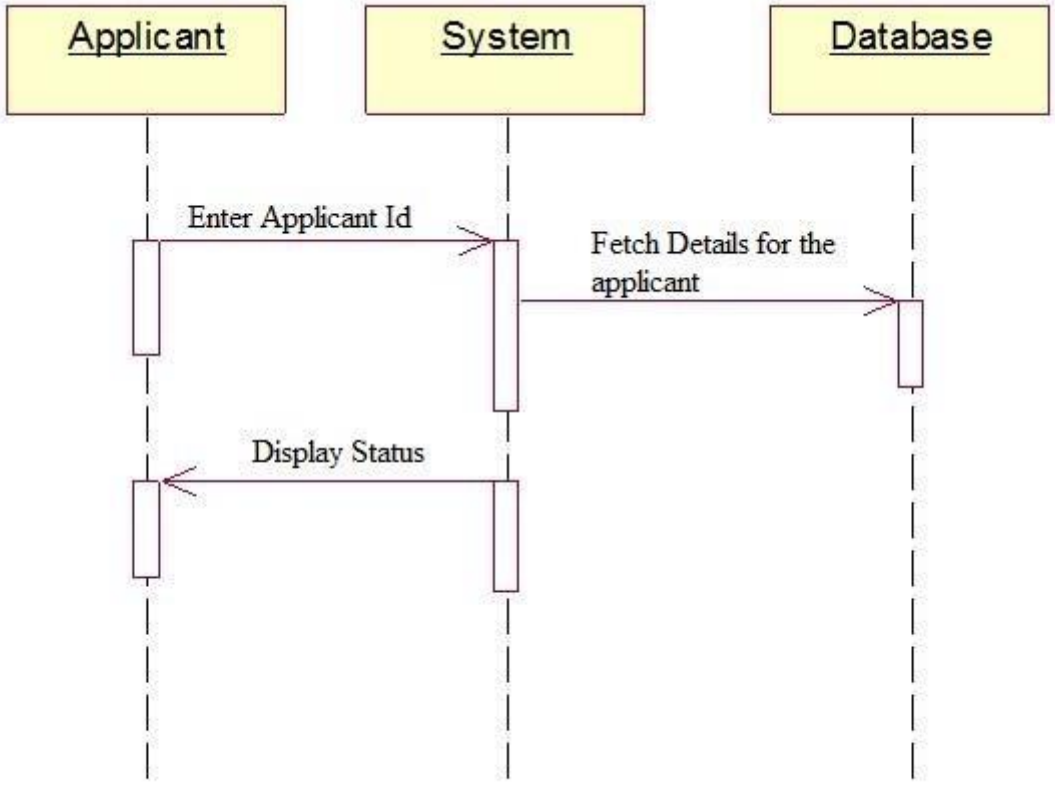
a) **Use Case** b) Collaboration Diagram c) Class Diagram
d) Object Diagram

3. Which UML diagram is shown below?



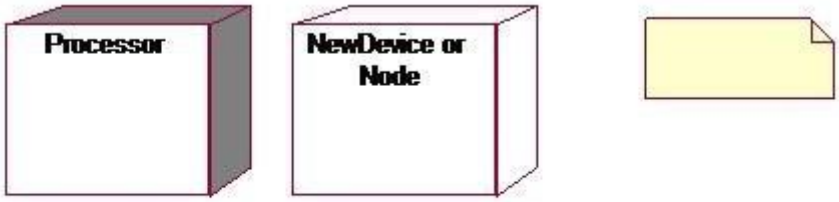
a) Use Case **b) State Chart** c) Activity d) Object Diagram

4. Which UML diagram is shown below?



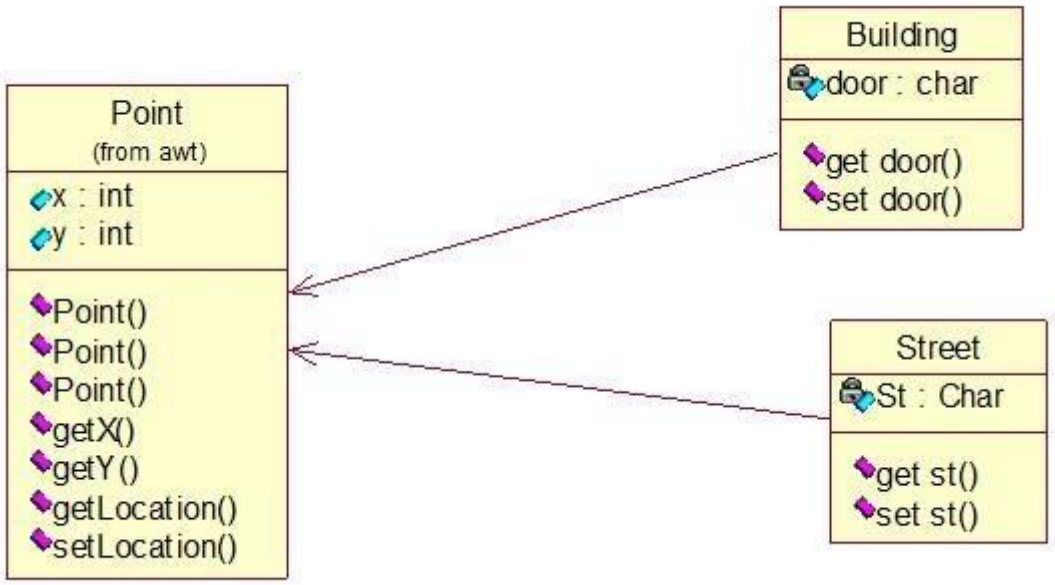
a) Use Case Diagram b) Collaboration Diagram **c) Sequence Diagram** d) Object

5. Which UML diagram's symbols are shown below?



a) Deployment diagram b) Collaboration Diagram c) Component Diagram d) Object Diagram

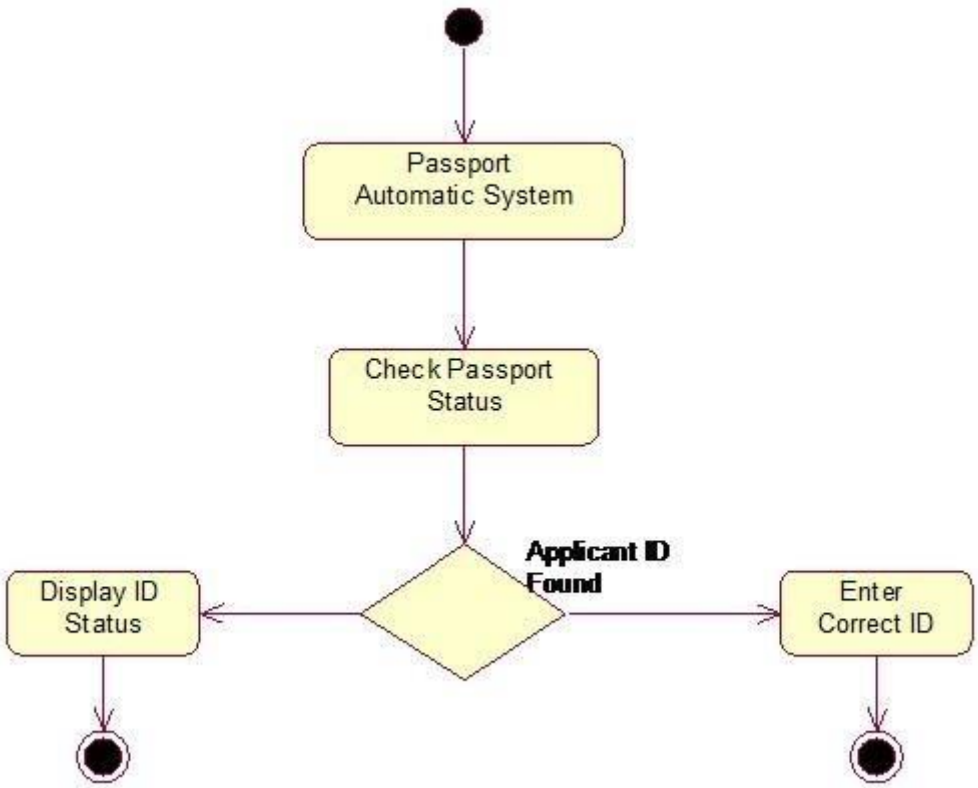
6. Which UML diagram is shown below?



a) Deployment diagram b) Collaboration Diagram c) Object Diagram **d) Class Diagram**

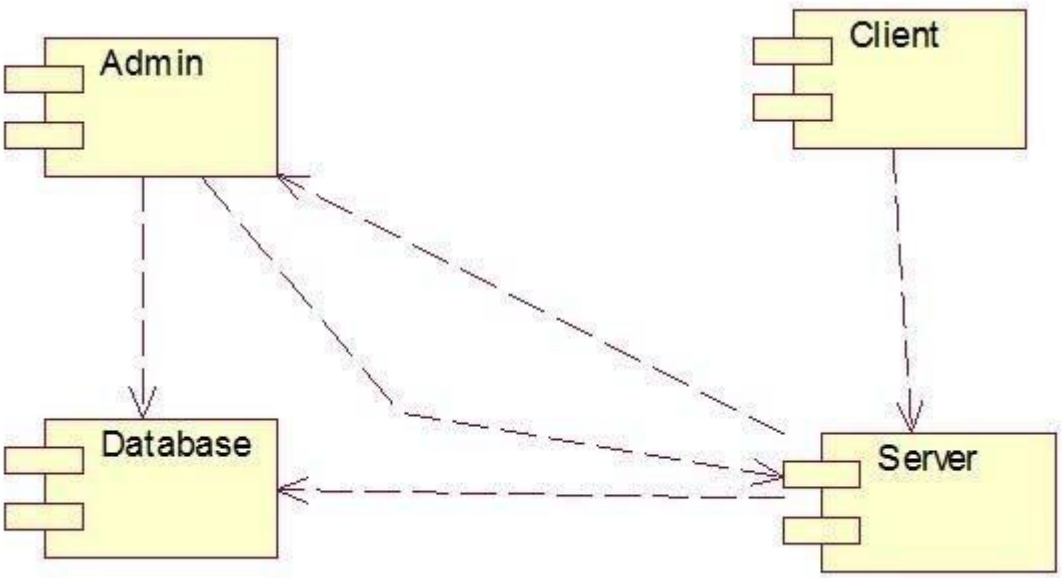
Shriram Mantri

7. Which UML diagram is shown below?



a) Activity b) State chart c) Sequence d) Collaboration

8. Which UML diagram is shown below?



a) Component b) Deployment c) Use Case d) DFD

Software Testing Techniques – 1

1. Which of the following term describes testing?
   a) Finding broken code **b) Evaluating deliverable to find errors** A stage of all projects d) None of the
mentioned

2. What is Cyclomatic complexity?
a) Black box testing **b) White box testing** c) Yellow box testing d) Green box testing

3. Lower and upper limits are present in which chart?
a) Run chart b) Bar chart c) Control chart d) None of the mentioned

4. Maintenance testing is performed using which methodology?
a) Retesting b) Sanity testing **c) Breadth test and depth test** d) Confirmation testing

5. White Box techniques are also classified as
a) Design based testing **b) Structural testing** c) Error guessing technique

6. Exhaustive testing is
a) always possible b) practically possible **c) impractical but possible** d) impractical and impossible

7. Which of the following is/are White box technique?
a) Statement Testing b) Decision Testing c) Condition Coverage **d) All of these**

8. What are the various Testing Levels?

a) Unit Testing b) System Testing c) Integration Testing **d) All of the mentioned**

9. Boundary value analysis belong to?
a) White Box Testing **b) Black Box Testing**

10. Alpha testing is done at
a) **Developer's end** b) User's end

Software Testing Techniques – 2

1. The testing in which code is checked
a) Black box testing **b) White box testing** c) Red box testing d) Green box testing

2. Testing done without planning and Documentation is called
a) Unit testing b) Regression testing **c) Adhoc testing** d) None of the mentioned

3. Acceptance testing is also known as
a) Grey box testing b) White box testing c) Alpha Testing **d) Beta testing**

4. Which of the following is non-functional testing?
a) Black box testing **b) Performance testing** c) Unit testing d) None of the mentioned

5. Beta testing is done at
a) User's end b) Developer's end

6. SPICE stands for
a) Software Process Improvement and Compatibility Determination
b) Software Process Improvement and Control Determination
c) **Software Process Improvement and Capability Determination**
d) None of the mentioned

7. Unit testing is done by
a) Users **b) Developers** c) Customers

8. Behavioural testing is
a) White box testing **b) Black box testing** c) Grey box testing

9. Which of the following is black box testing
a) Basic path testing **b) Boundary value analysis**
c) Code path analysis d) None of the mentioned

10. Which of the following is not used in measuring the size of the software
a) KLOC b) Function Points **c) Size of module**

Life Cycle Models

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).

a) 100-200 b) 200-400 c) 400-1000 d) above 1000

2. RAD stands for
a) Relative Application Development
b) **Rapid Application Development**
c) Rapid Application Document

3. Which one of the following models is not suitable for accommodating any change?
a) Build & Fix Model b) Prototyping Model c) RAD Model **d) Waterfall Model**

4. Which is not one of the types of prototype of Prototyping Model?
a) Horizontal Prototype b) Vertical Prototype **c) Diagonal Prototype** d) Domain Prototype

5. Which one of the following is not a phase of Prototyping Model?
a) Quick Design **b) Coding** c) Prototype Refinement d) Engineer Product

6. Which of the following statements regarding Build & Fix Model is wrong?
a) No room for structured design b) Code soon becomes unfix-able & unchangeable
c) Maintenance is practically not possible **d) It scales up well to large projects**

7. RAD Model has
a) 2 phases b) 3 phase **c) 5 phases** d) 6 phases

8. What is the major drawback of using RAD Model?
a) Highly specialized & skilled developers/designers are required.
b) Increases re-usability of components.
c) Encourages customer/client feedback. **d) Both a & c.**

9. SDLC stands for
a) Software Development Life Cycle b) System Development Life cycle
c) Software Design Life Cycle d) System Design Life Cycle

10. Which model can be selected if user is involved in all the phases of SDLC?
a) Waterfall Model b) Prototyping Model **c) RAD Model** d) both b & c

Function Oriented Software Design

1. Choose the option that does not define Function Oriented Software Design.
a) It consists of module definitions **b) Modules represent data abstraction**
c) Modules support functional abstraction

2. Which of the following is a complementary approach to function-oriented approach?
a) Object oriented analysis b) Object oriented design
c) Structured approach **d) Both a and b**

3. Function-oriented design techniques starts with functional requirements specified in
a) SDD **b) SRS** c) None of the mentioned

4. Structured Analysis is based on the principles of
a) Top-down decomposition approach b) Divide and conquer principle
c) Graphical representation of results using DFDs **d) All of the mentioned**

5. Which of the following is/are true with respect to functions?
a) A function such as "search-book" is represented using a circle.
b) Functions represent some activity
c) Function symbol is known as a process symbol or a bubble in DFD
d) **All of the mentioned**

6. Which of the following is not a use of a CASE tool?
a) Support structured analysis and design (SA/SD) b) Maintains the data dictionary
c) Checks whether DFDs are balanced or not **d) It complies with the available system.**

7. What DFD notation is represented by the Rectangle?
a) Transform **b) Data Store** c) Function d) None of the mentioned.

8. Structural decomposition is concerned with function calls.
a) True b) False

9. A function-oriented design focuses on the entities in the system rather than the data processing activities.
a) True **b) False**

10. In DFDs, user interactions with the system is denoted by
a) Circle b) Arrow c) Rectangle d) Triangle

Project Management

1. Which of the following is not project management goal?
a) Keeping overall costs within budget.
b) Delivering the software to the customer at the agreed time.
c) Maintaining a happy and well-functioning development team.
d) **Avoiding costumer complaints.**

2. Project managers have to assess the risks that may affect a project.
a) True **b) False**

3. Which of the following is not considered as a risk in project management?
a) Specification delays b) Product competition **c) Testing** d) Staff turnover

4. The process each manager follows during the life of a project is known as
a) Project Management b) Manager life cycle
b) **c) Project Management Life Cycle** d) All of the mentioned

5. A 66.6% risk is considered as

a) very low b) low c) moderate **d) high** e) very high

6. Which of the following is/are main parameters that you should use when computing the costs of a software development project?
a) Travel and training costs
b) Hardware and software costs
c) **All of the mentioned**
b) effort costs (the costs of paying software engineers and managers)

7. Quality planning is the process of developing a quality plan for
a) team **b) project** c) customers d) project manager

8. Which of the following is incorrect activity for the configuration management of a software system?
a) **Internship management** b) Change management c) Version management d) System management

9. Identify the sub-process of process improvement
a) Process introduction **b) Process analysis** c) De-processification d) Process distribution

10. An independent relationship must exist between the attribute that can be measured and the external quality attribute.
a) True **b) False**

Project Planning

1. Which of the following is an important factor that can affect the accuracy and efficacy of estimates?
a) Project size b) Planning process c) Project complexity d) Degree of structural uncertainty

2. What describes the data and control to be processed?
a) Planning process **b) Software scope**
c) External hardware d) Project complexity

3. A number of independent investigators have developed a team-oriented approach to requirements gathering that can be applied to establish the scope of a project called
a) JAD b) CLASS **c) FAST** d) None of the mentioned

4. CLSS stands for
a) Conveyor line sorting system b) Conveyor line sorting software
c) Conveyor line sorting speed d) Conveyor line sorting specification

5. The project planner examines the statement of scope and extracts all important software functions which is known as
a) Association **b) Decomposition** c) Planning process d) All of the mentioned

6. The environment that supports the software project is called
a) CLSS **b) SEE** c) FAST d) CBSE
7. Which of the following is not an option to achieve reliable cost and effort estimate?

a) Base estimates on similar projects that have already been completed
b) Use one or more empirical models for software cost and effort estimation
c) Use relatively simple decomposition techniques to generate project cost and effort estimates.
d) **The ability to translate the size estimate into human effort, calendar time, and dollars.**

8. What can be used to complement decomposition techniques and offer a potentially valuable estimation approach in their own right?
a) Automated estimation tools
b) Empirical estimation models
c) Decomposition techniques
d) **Both Automated estimation tools and Empirical estimation models**

9. Which of the following is not achieved by an automated estimation tools?
a) Predicting staffing levels b) Predicting software cost
c) Predicting software schedules **d) Predicting client's demand**

10. Software project estimation can never be an exact science, but a combination of good historical data and systematic techniques can improve estimation accuracy. **a) True**
b) False

Software Process and Product – 1

1. Which one of the following is not a software process quality?
a) Productivity **b) Portability** c) Timeliness d) Visibility
2. _____&_____ are two kinds of software products.
a) CAD, CAM b) Firmware, Embedded **c) Generic, Customised**

3. Software costs more to maintain than it does to develop.
a) True b) False

4. Which one of the following is not an application of embedded software product?
a) key pad control of a security system
b) **pattern recognition game playing**
c) digital function of dashboard display in a car

5. Purpose of process is to deliver software
a) in time b) with acceptable quality c) that is cost efficient **d) both a & b**

6. 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. i. support ii. development iii. definition
a) 1, 2, 3 b) 2, 1, 3 **c) 3, 2, 1** d) 3, 1, 2
7. Which of the following activities of a Generic Process framework provides a feedback report?
a) Communication b) Planning c) Modelling & Construction **d) Deployment**

8. Process adopted for one project is same as the process adopted from another project.
a) True **b) False**

9. Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk?

a) Re-usability management b) Risk management
c) Measurement **d) User Reviews** e) Software quality assurance

10. Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?

a) Translation b) Correction c) Adaptation d) Prevention

Software Process and Product – 2

1. If a software production gets behind schedule, one can add more programmers and catch up.
   a) True **b) False**
2. Choose an internal software quality from given below:

a) scalability b) usability **c) reusability** d) reliability

3. RUP stands for_____ created by a division of _____.

a) Rational Unified Program, IBM b) Rational Unified Process, Infosys
c) Rational Unified Process, Microsoft **d) Rational Unified Process, IBM**

4. The RUP is normally described from three perspectives-dynamic, static & practice. What does static perspective do? **a) It shows the process activities that are enacted.**

b) It suggests good practices to be used during the process.
c) It shows the phases of the model over time.

5. The only deliverable work product for a successful project is the working program. a) True **b) False**

6. Which phase of the RUP is used to establish a business case for the system?

a) Transition b) Elaboration c) Construction **d) Inception**

7. Which one of the following is not a fundamental activity for software processes in software engineering?

a) Software Verification b) Software Validation c) Software design and implementation
d) Software evolution e) Software specification

8. A general statement of objectives is the major cause of failed software efforts.

a) True b) False

9. The longer a fault exists in software

a) the more tedious its removal becomes b) the more costly it is to detect and correct
c) the less likely it is to be properly corrected **d) All of the mentioned**

10. Component-based Software Engineering allows faster delivery.
a) **True** b) False
11. Arrange the following steps to form a basic/general Engineering Process Model. i. Test ii. Design iii. Install iv. Specification v. Manufacture vi. Maintain
a) 2, 4, 5, 1, 6, 3 **b) 4, 2, 5, 1, 3, 6** c) 2, 4, 5, 1, 3, 6 d) 4, 2, 5, 1, 6, 3

Requirement Engineering

1. What are the types of requirements?
a) Availability b) Reliability c) Usability d) Flexibility **e) All of the mentioned**

2. Select the developer specific requirement?
a) Portability b) Maintainability c) Availability **d) Both a and b**

3. Which one of the following is not a step of requirement engineering?
a) Elicitation **b) Design** c) Analysis d) Documentation

4. FAST stands for
a) Functional Application Specification Technique b) Fast Application Specification Technique
c) Facilitated Application Specification Technique d) None of the mentioned

5. QFD stands for
a) quality function design b) quality function development
c) quality function deployment d) none of the mentioned

6. A Use-case actor is always a person having a role that different people may play.
a) True **b) False**

7. The user system requirements are the parts of which document?
a) SDD **b) SRS** c) DDD

8. A stakeholder is anyone who will purchase the completed software system under development.
a) True **b) False**

9. Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.
a) **True** b) False

10. Which is one of the most important stakeholder from the following?
a) Entry level personnel b) Middle level stakeholder c) Managers **d) Users of the software**

Software Metrics

1. Which of the following is the task of project indicators:

a) help in assessment of status of ongoing project. b) Track potential risk **c) both a and b** d) none of the mentioned

2. Which of the following does not affect the software quality and organizational performance?
a) Market b) Product c) Technology d) People

3. The intent of project metrics is:
a) Minimization of development schedule b) For strategic purposes
c) Assessing project quality on ongoing basis **d) Both a and c**

4. Which of the following is not a direct measure of SE process?
a) Efficiency b) Cost c) Effort Applied d) All of the mentioned

5. Which of the following is an indirect measure of product?
a) Quality b) Complexity c) Reliability **d) All of the Mentioned**

6. In size oriented metrics, metrics are developed based on the _____.
a) Number of Functions b) Number of user inputs **c) Number of lines of code** d) Amount of memory usage

7. Which of the following is not an information domain required for determining function point in FPA?
a) Number of user Input b) Number of user Inquiries c) Number of external Interfaces **d) Number of errors**

8. Usability can be measured in terms of:
a) Intellectual skill to learn the system
b) Time required to become moderately efficient in system usage
c) Net increase in productivity
d) **All of the mentioned**

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as
a) DRE (Defect Removal Efficiency) b) Function points analysis
c) Control Chart d) All of the mentioned

10. Defects removal efficiency (DRE) depends on:
a) E – errors found before software delivery b) D – defects found after delivery to user
c) Both E and D d) Varies with project

Software Maintenance – 1

1. Software Maintenance includes
a) Error corrections b) Enhancements of capabilities
c) Deletion of obsolete capabilities **d) All of the mentioned**

2. Maintenance is classified into how many categories?
a) Two b) Three **c) Four** d) Five

3. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?
a) Corrective **b) Adaptive** c) Perfective d) Preventive

4. How many phases are there in Taute Maintenance Model?
a) Six b) Seven **c) Eight** d) Nine

5. What type of software testing is generally used in Software Maintenance?
a) Regression Testing b) System Testing c) Integration Testing d) Unit Testing

6. Regression testing is a very expensive activity.
a) True b) False

7. Selective retest techniques may be more economical than the "retest-all" technique. How many selective retest techniques are there?
a) Two **b) Three** c) Four d) Five

8. Which selective retest technique selects every test case that causes a modified program to produce a different output than its original version?
a) Coverage b) Minimization **c) Safe**

9. _____ measures the ability of a regression test selection technique to handle realistic applications.
a) Efficiency b) Precision **c) Generality** d) Inclusiveness

10. Which regression test selection technique exposes faults caused by modifications?
a) Efficiency b) Precision c) Generality **d) Inclusiveness**

Software Maintenance – 2

1. The process of generating analysis and design documents is known as
a) Software engineering b) Software re-engineering **c) Reverse engineering** d) Reengineering

2. What is a software patch?
a) Required or Critical Fix **b) Emergency Fix**
c) Daily or routine Fix d) None of the mentioned

3. Which one of the following is not a maintenance model?
a) Waterfall model b) Reuse-oriented model
c) Iterative enhancement model d) Quick fix model

4. What does ACT stands for in In Boehm model for software maintenance?
a) Actual change track b) Annual change track
c) Annual change traffic d) Actual change traffic

5. Choose the suitable options with respect to regression testing.

a) It helps in development of software b) It helps in maintenance of software
c) both a and b d) none of the mentioned

6. What are legacy systems?
a) new systems **b) old systems** c) under-developed systems d) none of the mentioned

7. Which of the following manuals is not a user documentation?
a) Beginner's Guide b) Installation guide c) Reference Guide **d) SRS**

8. Which of the following manuals is a user documentation?
a) SRS -Software Requirement Specification b) SDD -Software Design Document **c) System Overview**

9. The process of transforming a model into source code is known as
a) Forward engineering b) Reverse engineering c) Re-engineering d) Reconstructing

10. How many stages are there in Iterative-enhancement model used during software maintenance?
a) Two **b) Three** c) Four d) Five

Software Configuration Management – 1

1. Which of the following categories is part of the output of software process?
a) computer programs b) documents that describe the computer programs
c) data **d) All of the mentioned**

2. Which is a software configuration management concept that helps us to control change without seriously impeding justifiable change?
a) Baselines b) Source code c) Data model d) None of the mentioned

3. Software Configuration Management can be administered in several ways. These include
a) A single software configuration management team for the whole organization
b) A separate configuration management team for each project
c) Software Configuration Management distributed among the project members d) All of the mentioned

4. What combines procedures and tools to manage different versions of configuration objects that are created during the software process?
a) Change control **b) Version control** c) SCIs d) None of the mentioned
5. What complements the formal technical review by assessing a configuration object for characteristics that are generally not considered during review?
a) Software configuration audit b) Software configuration management
c) Baseline d) None of the mentioned

6. Which of the following is the process of assembling program components, data, and libraries, and then compiling and linking these to create an executable system?
a) System building b) Release management
c) Change management d) Version management

7. Which of the following option is not tracked by configuration management tools?

a) Tracking of change proposals b) Storing versions of system components
c) Tracking the releases of system versions to customers **d) None of the mentioned**

8. Which of the following is not a Software Configuration Management Activity?
a) Configuration item identification **b) Risk management**
c) Release management d) Branch management

9. The definition and use of configuration management standards is essential for quality certification in
a) ISO 9000 b) CMM c) CMMI **d) All of the mentioned**

10. What involves preparing software for external release and keeping track of the system versions that have been released for customer use?
a) System building **b) Release management** c) Change management d) Version management

Software Configuration Management – 2

1. Which of the following process ensures that versions of systems and components are recorded and maintained?
a) Code line **b) Configuration control** c) Version d) Workspace

2. Which of the following process is concerned with analysing the costs and benefits of proposed changes?
a) Change management b) Version management
c) System building d) Release management

3. Which of the following is not a Version management feature?
a) Version and release identification **b) Build script generation**
c) Project support d) Change history recording

4. Which method recommends that very frequent system builds should be carried out with automated testing to discover software problems?
a) Agile method b) Parallel compilation method
c) Large systems method d) All of the mentioned

5. Which of the following is not a build system feature?
a) Minimal recompilation b) Documentation generation
c) Storage management d) Reporting

6. Which of the following is a collection of component versions that make up a system?
a) Version b) Code line **c) Baseline** d) None of the above

7. Which of the following is a configuration item?
a) Design specification b) Source code c) Test specification d) Log information **e) All of the mentioned**

8. Which of the following is a part of system release?
a) electronic and paper documentation describing the system
b) packaging and associated publicity that have been designed for that release

c) an installation program that is used to help install the system on target hardware d) **all of the mentioned**

9. A sequence of baselines representing different versions of a system is known as
a) System building **b) Mainline** c) Software Configuration Item(SCI) d) None of the above

10. Which of the following term is best defined by the statement "The creation of a new code line from a version in an existing code line"?
a) Branching b) Merging c) Code line d) Mainline

Risk Management

1. Risk management is one of the most important jobs for a
a) Client b) Investor c) Production team **d) Project manager**

2. Which of the following risk is the failure of a purchased component to perform as expected?
a) Product risk b) Project risk c) Business risk d) Programming risk

3. Which of the following term is best defined by the statement: "There will be a change of organizational management with different priorities."?
a) Staff turnover b) Technology change **c) Management change** d) Product competition

4. Which of the following term is best defined by the statement: "The underlying technology on which the system is built is superseded by new technology."?
a) Technology change b) Product competition
c) Requirements change d) None of the mentioned

5. What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?
a) Risk monitoring b) Risk planning c) Risk analysis d) Risk identification

6. Which of the following risks are derived from the organizational environment where the software is being developed?
a) People risks b) Technology risks c) Estimation risks **d) Organizational risks**

7. Which of the following risks are derived from the software or hardware technologies that are used to develop the system?
a) Managerial risks **b) Technology risks** c) Estimation risks d) Organizational risks

8. Which of the following term is best defined by the statement: "Derive traceability information to maximize information hiding in the design."?
a) Underestimated development time b) Organizational restructuring **c) Requirements changes** d) None of the above

9. Which of the following strategies means that the impact of the risk will be reduced?
a) Avoidance strategies **b) Minimization strategies**
c) Contingency plans d) All of the above

10. Risk management is now recognized as one of the most important project management tasks. **a) True** b) False

11. Every risk has 100% likelihood. True or false.
a) True **b) False**

12. Risk management is responsibility of the
a) Customer b) Investor c) Developer **d) Project team** e) Production team

13. Risk is expressed in terms of probability and impact.
a) True b) False

14. .RE represents what
a) Risk expense b) Related expense **c) Risk exposure** d) Risk evaluation

15. As a tester which of the following will come under product risk if you are testing an e-commerce website?
a) Shortage of testers
b) Many changes in SRS that caused changes in test cases
c) Delay in fixing defects by development team
d) **Failure to transfer a user to secure gateway while paying**
e) All of the above

16. Which of the following technique will ensure that impact of risk will be less?
a) Risk avoidance technique b) Risk Mitigation technique
c) Risk contingency technique d) All of the above

17. What is associated with product risk?
a) Control of test item b) Negative consequences
c) non-availability of test environment **d) Test object**

18. Risk management is important part of a project management. True or false.
a) True b) False

19. After deployment of a system, a software is incorrectly performing one of its major functionality. Who is going to determine how badly it will hamper the organization?
a) QA personnel b) Developer c) Technical people **d) Business analyst**

10. Which is/are ways to deal with risk?
a) Mitigate b) Contingency c) Transfer d) Ignore **e) All of the above**

User Interface Design

1. Which of the following is golden rule for interface design?
a) Place the user in control b) Reduce the user's memory load
c) Make the interface consistent **d) All of the mentioned**

2. Which of the following is not a design principle that allow the user to maintain control?
a) Provide for flexible interaction
b) Allow user interaction to be interrupt-able and undo-able
c) **Show technical internals from the casual user**
d) Design for direct interaction with objects that appear on the screen

3. Which of the following is not a user interface design process?
a) User, task, and environment analysis and modelling
b) Interface design
c) **Knowledgeable, frequent users**
d) Interface validation

4. When users are involved in complex tasks, the demand on _____ can be significant.
a) short-term memory b) shortcuts
c) objects that appear on the screen d) all of the mentioned

5. Which of the following option is not considered by the Interface design?
a) the design of interfaces between software components
b) the design of interfaces between the software and human producers and consumers of information
c) **the design of the interface between two computers**
d) all of the mentioned

6. A software might allow a user to interact via
a) keyboard commands b) mouse movement
c) voice recognition commands **d) all of the mentioned**

7. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.
a) True b) False

8. What incorporates data, architectural, interface, and procedural representations of the software?
a) Design model b) user's model c) mental image d) system image

9. What establishes the profile of end-users of the system?
a) Design model **b) user's model** c) mental image d) system image

10. What combines the outward manifestation of the computer-based system, coupled with all supporting information that describe system syntax and semantics?
a) Mental image b) interface design **c) system image** d) interface validation.

DevOps

Q.1) Which one of the following methodologies does least impact the establishment of DevOps methodology?
a) Lean Manufacturing. b) Agile Software Delivery.

c) Waterfall Software Delivery. d) Continuous Software Delivery.

Q.2) In typical IT organizations why is there a typical conflict between development and operations teams?
a) Because they come from different backgrounds.
b) Because development team knows more about software products and services.
c) Because operations team knows more about test and production environments.
d) **Because they have conflicting business goals and priorities.**

Q.3) Which one of the following techniques makes DevOps a successful methodology to develop and deliver software?
a) DevOps enables you to organize your teams around your organizational mission.
b) DevOps enables you to create your software with built-in quality and monitoring.
c) DevOps enables you to quickly identify, fix and learn from errors.
d) **All above choices.**

Q.4) Which one of the following statements about DevOps is incorrect?
a) **DevOps is only suitable for start-up companies.**
b) DevOps is suitable for brownfield software products and services.
c) DevOps is suitable for greenfield software products and services.
d) Some of the most exemplary DevOps initiatives started in companies with giant and mature IT organizations.

Q.5) How does a DevOps organization act in principle when it comes to financing its work?
a) It finances special projects to serve its clients.
b) **It finances products and services to serve its clients.**
c) It finances teams in matrix organizations and these teams are responsible for handling their own budgets.
d) It finances development and operations teams separately, so they take care of their own business.

Q.6) In a DevOps organization which one of the following elements does not directly contribute to your value stream?
a) DevOps team b) Stakeholders of downstream work centers.
c) Errors, incidents and fixes. c) Clients.

Q.7) Why is it a good idea to limit batch size of your continuous DevOps deliveries?
a) You will be quicker to identify root causes of issues and resolve them.
b) By continuously delivering in production, your team will have the constant pride of contributing your organizational mission.
c) Potentially required rollbacks from your production systems will be less cumbersome. **d) All above choices.**

Q.8) What is trunk in trunk based DevOps delivery?
a) **Developers collaborate on code in a single branch called "trunk".**
b) Trunk is a special private branch in a developer workstation.
c) Trunk is the process of merging code in DevOps deliveries.

d) Trunk is a special source code version controlling system which stores mission critical special projects of your DevOps organization.

Q.9) Which one of the following is not one of the DevOps principles for good test automation?
a) Test Automation should give quick and early feedback about your quality of work.
b) **Never mix test driven development (TDD) together with your test automation approach.**
c) Tests should generate consistent, deterministic and repeatable results provided same conditions for different test runs.
d) With your test automation, avoid slow and periodic feedback. What you need is fast feedback whenever you or your developer attempts to check-in code to your trunk.

Q.10) Which one of following release patterns does not enable you to do low risk DevOps code deployments in your production systems?
a) Canary Deployment Pattern (The Dark Launch).
b) Blue-Green Deployment Pattern.
c) Cluster Immune System Release Pattern.
d) **Big bang code deployments of fully tested and validated releases.**

Q.11) What is one of best techniques to convert normal changes into standard changes?
a) **Use your track record of successful automated deployments with standard changes.**
b) Negotiate with release managers.
c) Publicly complain about bureaucracy and make everyone be aware of it.
d) Make sure normal changes are very carefully deployed to your production systems.

Q.12) What is a widely used reusable asset to reinforce information security of deliverables from your DevOps team?
a) Data storage systems.
b) Handling the logging of sensitive client information.
c) Data transfer between clients and software.
d) **All above choices.**

Q.13) What is not one of major benefits of designing a safe system of work culture?
a) Complexity of your systems will be managed, so problems in designs and operations will be quickly detected.
b) **DevOps team does no longer need to be careful and mindful to ensure quality.**
c) Problems are quickly resolved while they are small. Resolving problems will result in spontaneous construction of new organizational knowledge and experience.
d) Leaders in your DevOps organization develop other leaders who create and continuously improve safe systems of work.

Q.14) What is telemetry?
a) Telemetry is a widely known SaaS tool to plan and execute DevOps projects.
b) Telemetry is a communication tool used by DevOps teams at geographically distributed locations.
c) **Telemetry is the process of recording the behaviour of your systems.**

d) Telemetry is a tool to design, code and execute automated unit tests.

Q.15) In terms of fixing errors in your production systems what is the major benefit of using feature toggles embedded in configurations of your software applications?

a) This is easiest way to fix a problem. It doesn't require an urgent code deployment.

b) You don't have to very urgently correct erroneous pieces in your deployment.

c) Your DevOps team can take time to properly identify root cause of an issue and improve their techniques to ensure such a problem will not likely happen again in the future. **d) All above choices.**

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Web Programming Technologies eDAC Sept 21

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Architecture of web

1. A piece of icon or image on a web page associated with another webpage is called

a) url **b) hyperlink** c) plugin d) none of the mentioned

2. Dynamic web page

a) is same every time whenever it displays

b) **generates on demand by a program or a request from browser** c

c) both (a) and (b)

d) none of the mentioned

3. What is a web browser?

a) a program that can display a web page

b) a program used to view html documents

c) it enables user to access the resources of internet

d) **all of the mentioned**

4. Common gateway interface is used to

a) generate executable files from web content by web server

b) generate web pages

c) stream videos

d) none of the mentioned

5. URL stands for

a) unique reference label b) uniform reference label

c) uniform resource locator d) unique resource locator

6. A web cookie is a small piece of data

a) sent from a website and stored in user's web browser while a user is browsing a website

b) sent from user and stored in the server while a user is browsing a website

c) sent from root server to all servers
d) advanced javascript and xml

11. The number of objects in a Web page which consists of 4 jpeg images and HTML text is _____
a) 4 b) 1 **c) 5** d) None of the mentioned
Explanation: 4 jpeg images + 1 base HTML file.

12. The default connection type used by HTTP is _____
a) Persistent b) Non-persistent
c) Either of the mentioned d) None of the mentioned

13. The time taken by a packet to travel from client to server and then back to the client is called
a) STT **b) RTT** c) PTT d) None of the mentioned
Explanation: RTT stands for round-trip time.

14. The HTTP request message is sent in _____ part of three-way handshake.
a) First b) Second **c) Third** d) None of the mentioned

15. In the process of fetching a web page from a server the HTTP request/response takes _____ RTTs.
a) 2 **b) 1** c) 4 d) 3

16. The first line of HTTP request message is called _____
a) Request line b) Header line c) Status line d) Entity line
Explanation: The line followed by request line are called header lines and status line is the initial part of response message.

17. The values GET, POST, HEAD etc are specified in _____ of HTTP message
a) Request line b) Header line c) Status line d) Entity body
Explanation: It is specified in the method field of request line in the HTTP request message.

18. The _____ method when used in the method field, leaves entity body empty.
a) POST **b) GET** c) Both of the mentioned d) None of the mentioned

19. The HTTP response message leaves out the requested object when _____ method is used
a) GET b) POST **c) HEAD** d) PUT

20. Find the oddly matched HTTP status codes
a) 200 OK b) 400 Bad Request
c) 301 Moved permanently **d) 304 Not Found**
Explanation: 404 Not Found.

21. Which of the following is not correct ?
a) Web cache doesnt has its own disk space
b) Web cache can act both like server and client
c) Web cache might reduce the response time
d) Web cache contains copies of recently requested objects

22. The conditional GET mechanism
a) Imposes conditions on the objects to be requested
b) Limits the number of response from a server
c) **Helps to keep a cache upto date**
d) None of the mentioned

23. Which of the following is present in both an HTTP request line and a status line?
a) HTTP version number b) URL c) Method d) None of the mentioned

24. Multiple object can be sent over a TCP connection between client and server in
a) persistent HTTP b) nonpersistent HTTP
c) both (a) and (b) d) none of the mentioned

25. HTTP is _____ protocol.
a) application layer b) transport layer
c) network layer d) none of the mentioned

26. In the network HTTP resources are located by
a) uniform resource identifier b) unique resource locator
c) unique resource identifier d) none of the mentioned

27. HTTP client requests by establishing a _____ connection to a particular port on the server.
a) user datagram protocol **b) transmission control protocol**
c) broader gateway protocol d) none of the mentioned

28. In HTTP pipelining
a) multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses
b) multiple HTTP requests can not be sent on a single TCP connection
c) multiple HTTP requests are sent in a queue on a single TCP connection
d) none of the mentioned

29. FTP server listens for connection on port number
a) 20 **b) 21** c) 22 d) 23

30. In FTP protocol, client contacts server using ____ as the transport protocol.
a) transmission control protocol b) user datagram protocol
c) datagram congestion control protocol d) stream control transmission protocol

31. In which mode FTP, the client initiates both the control and data connections.
a) active mode **b) passive mode** c) both (a) and (b) d) none of the mentioned

32. The file transfer protocol is built on
a) data centric architecture b) service oriented architecture
c) client server architecture d) none of the mentioned

33. In file transfer protocol, data transfer can be done in
a) stream mode b) block mode c) compressed mode **d) all of the mentioned**

HTML

Q1. Body tag do not have a attribute
a. text b. bgcolor **c. font**

Q2. To increase font size
a. <font size=5> b. <text size=5>

Q3. It will bring the text on next line
**a.
** b. <break> c. <b>

Q4. It will always display data on next line
a. <p> b. <h> c. <pre>

Q5. It will display data after leaving one line
a. <h3> b. <p> c. <b>

Q6. In img tag align attribute can not have value
a. left b. right **c. center**

Q7. small tag increase font size
a. to 3 b. +1 from current size c. <size=5>

Q8. big tag increase font size
a. to 4 **b.+1 from current size** c. -1 from current size

Q9. it is used to link two file
a. anchor tag b. link c. href

Q10. B and strong tag is used to make text
a. italic **b. bold** c. underline

Q11. It is used to give red color to the text
a. <font color="red"> b. <fon color="blue"> c. <text color="red">

Q12. minimum heading is
a. <h1> b. <h5> **c. <h6>**

Q13. Max heading is
a. <h6> b. <h5> **c. <h1>**

Q14. It is used to display data as it appear in editor

SMVITA

a. <BLOCKQUOTE> **b. <PRE>** c. <EM>

Q15. Hyperlink is also cold as
a. HOT SPOT b. LINK c. A

Q16. It is used to display data in center and bold in table tag
a. td **b. th** c. tr

Q17. It is used to display image
a. <image link="pot.gif"> **b. <img src="pot.gif">** c.<img href="pot.gif">

Q18. which attribute is used to keep background fixed
a. bgproperties b. attachment c. scroll

Q19. It is used to animate text
a. blink **b. marquee** c.<a>

Q20. It is used to display horizontal line
a. <line> **b. <hr>** c. <vr>

Q21. This attribute will increase the speed of marquee text
a. scrollamount b. speed c. Behavior

Q22. This attribute of form take you to the another page
a. action b. anchor c.name

Q23. This display data of form in url
a. <form method="post">> **b. <form method="get">>** c. <form method="dopost">>

Q24. How to give link to your email a. <a href="www.reidffmail.com"/> b . <**a href="mailto:vita_trg@rediffmail.com">** c. <a email="vita_trg@rediaamail.com">

Q25. It allows you to select only one option at a time
a. choice b. checkbox **c. radio**

Q26. It allows you to select multiple option at a time
a. Choice **b. checkbox** c. radio

Q27. What is the correct tag for drop down box
a. <select> b. <combobox> c. <option>

Q28. Which attribute enables you to select multiple option in dropdown box
a. multiple b. selected c. more

Q29. Which attribute display data on button
a.name **b. value** c. button

Q30. Which attributes value is used as variable
a. value **b. name** c. submit

Q31. What is default value of submit button in IE
a. SUBMITQUERY b. SUBMIT c. RESET

Q32. Correct tag to clear form
a. <input type="reset" value="reset">
b. <input type="clear" value="reset">
c. <input type="button" value="reset">

Q33. To mark checkbox checked as default you use
a. **<input type="checkbox" checked=ch**
b. <input type="checkbox" checked="true">
c. <input type="checkbox" checked=unchecked">

Q34. What is the correct HTML for adding a background color**?**
a. **<body bgcolor="yellow">**
b. <background>yellow</background>
c. <body color="yellow">

Q35. How can you open a link in a new browser window?
a. <a href="url" target="_blank">
b. <a href="url" new>
<a href="url" target="new">

Q36. Choose the correct HTML to left-align the content inside a tablecell?
a. <tdleft> b. +<td leftalign> c. <td valign="left">> **d. <td align="left">**

Q37. How can you make a list that lists the items with bullets?
a. <ol> b. <list> **c. <ul>** d. <dl>

Q38. What is the correct HTML for making a drop-down list?
a. <list> b. <input type="dropdown">> c. <input type="list">> **d. <select>**

Q39. What is the correct HTML for making a text area?
a. <input type="textarea"> b. <textarea> c. <input type="textbox">

Q40. Links are also known as
a. Hotspots b. Anchors c. Both 1 and 2 d. None of the above

Q41**.** While ____ is a generic inline element that applies no inherent formatting, the ____ is a generic block leve element that applies no inherent formatting.
a. DIV, SPAN b. GROUP, DIV c. **SPAN, DIV** d. SPAN, GROUP

Q42.How do you display hyperlinks without an underline?
a. {text-decoration:none} b. {text-decoration:no underline}
c. {underline:none} d. {decoration:no underline}

Q43. In the SELECT element, the attribute SIZE specifies
a. Height b. Width c. Max size d. **Visible size**

Q44. The SRC attribute of_____ specifies the URL of a HTML file to be displayed in a Frame
a. IFrame b. Frameset c. src d. href

Q45. The linked regions of an image map are called_____
a. anchors b. source c. transfer **d. hot regions**

Q46. The _____attribute takes text to be displayed in case the Browser is unable to display the image specified in the SRC attribute.
a. ALT b. href c. link d. vspace

Q47. Main protocol used in Internet is:
a. IPX/SPX b. Zolan Bus **c. TCP/IP** d. X.25

Q48. Who is making the Web standards?
a. The World Wide Web Consortium b. Microsoft c. Netscape

Q49.Which of these tags are all <table> tags?
a. <table><tr><tt> b. <thead><body><tr> c. <table><head><tfoot> **d. <table><tr><td>**

Q50. What is the correct HTML for inserting a background image?
a. <img src="background.gif" background>
b. **<body background="background.gif">**
c. <background img="background.gif">

Q51. How to open link in new unique window
a. Target=_new b. Target=_self c. **Target=_blank**

Q52. align attribute can not be used with
a. Hr b. H1 c. **Font**

Q53. What is ALT text
a. Text display when image is not found b. Text display when you hold mouse over image **c. Both**

Q54. How can you make a row stretch over 2 column
a. <td colspan=2> b. <td rowspan=2> c. <rd colspan=2>

Q55. How to define table background color

a. Background-color= **b. bgcolor=** c. ackgroundcolor=

Q56. How to table give border color
a. Border= **b. Bordercolor=** c. Bgcolor=

Q57. Default font size is
a. 7 b. 2 c. **3**

Q58. Server is one who
a. Provide service b. Host website c. Both

Q59. It will put horizontal line on the text
a. Hr b. Strike c. Table

Q60. Tag used to give heading to option in select tag
a. <optgoup lable="heading"> b. <option value="heading"> c. <select name="heading">

Q61. Which two tag has same effect
a. <i>,<b> **b.<b>** c. <b><cite>

Q62. Attribute used to increase the height of line in <hr> tag
a. Height **b. Size** c. Length

Q63. It will increase the speed of marquee tag
a. Scroll **b. Scrollamount** c. Behavior

Q64. What are the attribute of anchar tag
a. Name,href,target,src **b. Name,href,target,title** c. Href, tooltip,src

Q65. It interprete the html code
a. Server **b. Browser** c. notepad

Q66. Which of the following is true about HTML 5?
a. HTML5 is the next major revision of the HTML standard superseding HTML 4.01, XHTML 1.0, and XHTML 1.1.
b. HTML5 is a standard for structuring and presenting content on the World Wide Web.
c. HTML5 is a cooperation between the World Wide Web Consortium W3C and the Web Hypertext Application Technology Working Group WHATWG.
d. **All of the above.**

Q67. Which of the following feature is a part of HTML 5?
a. Persistent Local Storage b. WebSocket c. Server-Sent Events d. **All of the above.**

Q68. Which of the following feature is a part of HTML 5?
a. Canvas b. Audio & Video c. Geolocation d. **All of the above.**

Q69. Which of the following browser supports HTML5 in its latest version?
a. Apple Safari b. Google Chrome **c. Both of the above.** d. None of the above.

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Q70. Which of the following browser supports HTML5 in its latest version?
a. Mozilla Firefox b. Opera **c. Both of the above.** d. None of the above.

Q71. Which of the following browser supports HTML5 in its latest version?
a. Mozilla Firefox b. Opera **c. Both of the above.** d. None of the above.

Q72. Is HTML5 backward compatible with old browsers?
a. true b. false

Q73. Are HTML tags case sensitive?
a. true **b. false**

Q74. Which of the following tag represents a generic document or application section in HTML5?
a. section b. article c. aside d. header

Q75. Which of the following tag represents an independent piece of content of a document in HTML5?
a. section **b. article** c. aside d. header

Q76. Which of the following tag represents a piece of content that is only slightly related to the rest of the page in HTML5?
a. section b. article **c. aside** d. header

Q77. Which of the following tag represents the header of a section in HTML5?
a. section b. article c. aside **d. header**

Q78. Which of the following tag represents the footer of a section in HTML5?
a. footer b. nav c. section d. dialog

Q79. Which of the following tag represents a section of the document intended for navigation in HTML5**?**
a. footer b. **nav** **c.** section d. dialog

Q80. Which of the following tag can be used to mark up a conversation in HTML5?
a. footer b. nav **c. dialog** d. figure

Q81. Which of the following tag can be used to associate a caption together with some embedded content in HTML5?
a. footer b. nav c. dialog **d. figure**

Q82. Which of the following is correct about custom attributes in HTML5?
a. A custom data attribute starts with data- and would be named based on your requirement.
b. You would be able to get the values of these attributes using JavaScript APIs or CSS in similar way as you get for standard attributes.
c. **Both of the above.**
d. d. None of the above.

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b. You would be able to get the values of these attributes using JavaScript APIs or CSS in similar way as you get for standard attributes.
c. **Both of the above.**
d. d. None of the above.

Q84. Which of the following is correct about Web form 2.0 in HTML5?

a. Web Forms 2.0 is an extension to the forms features found in HTML4.
b. Form elements and attributes in HTML5 provide a greater degree of semantic mark-up than HTML4.
c. Form elements and attributes in HTML5 remove a great deal of the need for tedious scripting and styling that was required in HTML4.
d. **All of the above.**

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d. **All of the above.**

Q86. Which of the following input control represents a date and time year, month, day, hour, minute, second, fractions of a second encoded according to ISO 8601 with the time zone set to UTC in Web Form 2.0?

a. datetime b. datetime-local c. date d. month

Q87. Which of the following input control represents a date and time year, month, day, hour, minute, second, fractions of a second encoded according to ISO 8601 with no time zone information in Web Form 2.0?

a. datetime **b. datetime-local** c. date d. month

Q88. Which of the following input control represents a date year, month, day encoded according to ISO 8601 in Web Form 2.0?

a. datetime b. datetime-local **c. date** d. month

Q89. Which of the following input control represents a date consisting of a year and a month encoded according to ISO 8601 in Web Form 2.0?

a. datetime b. datetime-local c. date **d. month**

Q90. Which of the following input control represents a date consisting of a year and a week number encoded according to ISO 8601 in Web Form 2.0?

a. week b. time c. number d. range

Q91. Which of the following input control represents a time hour, minute, seconds, fraction al seconds encoded according to ISO 8601 in Web Form 2.0?

a. week b. **time** **c.** number d. range

Q92. Which of the following input control accepts only numerical value in Web Form 2.0?

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a. week b. time **c. number** d. range

Q93. Which of the following input control is used for input fields that should contain a value from a range of numbers in Web Form 2.0?
a. week b. time c. number **d. range**

Q94. Which of the following input control is used for input fields that should contain an e-mail address in Web Form 2.0?
a. email b. url c. number d. range

Q95. Which of the following input control is used for input fields that should contain an URL address in Web Form 2.0?
a. email **b. url** **c.** number d. range

Q96. Which of the following tag is used to represent the result of different types of output in HTML5?
a. output b. placeholder c. autofocus d. required

Q97. Which of the following tag provides a hint to the user of what can be entered in the field in HTML5?
a. output **b. placeholder** c. autofocus d. required

Q98. Which of the following tag automatically focus one particular form field in HTML5?
a. output b. placeholder **c. autofocus** d. required

Q99. Which of the following tag insists to have a value in an input control in HTML5?
a. output b. placeholder c. autofocus **d. required**

Q100. Can you use SVG tags directly in HTML5 without any plugin?
a. true b. false

Q101. Can you use MathML tags directly in HTML5 without any plugin?
a. true b. false

Q102. Which of the following is true about Cookies?
a. Cookies are included with every HTTP request, thereby slowing down your web application by transmitting the same data.
b. Cookies are included with every HTTP request, thereby sending data unencrypted over the internet.
c. Cookies are limited to about 4 KB of data .Not enough to store required data. d. **All of the above.**

Q103. Which of the following is true about Session Storage in HTML5?
a. HTML5 introduces the session Storage attribute which would be used by the sites to add data to the session storage.
b. It will be accessible to any page from the same site opened in that window i.e. session.
c. As soon as you close the window, session would be lost. d. **All of the above.**

Q104. Which of the following is true about Local Storage in HTML5?

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a. HTML5 introduces the local Storage attribute which would be used to access a page's local storage area without no time limit.
b. This local storage will be available whenever you would use that page.
c. **Both of the above.**
d. None of the above.

Q105. When a session storage data gets deleted in HTML5?
a. The Session Storage Data would be deleted by the browsers immediately after the session gets terminated.
b. If you want to clear all settings, you need to call localStorage. clear method.
c. Both of the above.
d. None of the above.

Q106. How to delete a local storage data in HTML5?
a. To clear a local storage setting you would need to call localStorage.remove'key';
where 'key' is the key of the value you want to remove.
b. If you want to clear all settings, you need to call localStorage. clear method.
c. **Both of the above.**
d. None of the above.

Q107. Which of the following is correct about Server Side EventsSSE in HTML5?
a. Using SSE you can push DOM events continously from your web server to the visitor's browser.
b. The event streaming approach opens a persistent connection to the server, sending data to the client when new information is available, eliminating the need for continuous polling.
c. Server-sent events standardizes how we stream data from the server to the client.
d. **All of the above.**

Q108. Which of the following is correct about Server Side EventsSSE in HTML5?
a. To use Server-Sent Events in a web application, you would need to add an <eventsource> element to the document.
b. The src attribute of <eventsource> element should point to an URL which should provide a persistent HTTP connection that sends a data stream containing the events.
c. The URL would point to a PHP, PERL or any Python script which would take care of sending event data consistently.
d. **All of the above.**

Q109. Which of the following is correct Content-type header that a server side script should send for SSE in HTML5?
a. Content-Type: text/event-stream b. Content-Type: text/application-stream
c. Content-Type: text/data-stream d. None of the above.

Q110. Which of the following is correct about WebSockets in HTML5?
a. Web Sockets is a next-generation bidirectional communication technology for web applications which operates over a single socket and is exposed via a JavaScript interface in HTML 5 compliant browsers.

b. Once you get a Web Socket connection with the web server, you can send data from browser to server by calling a send method, and receive data from server to browser by an onmessage event handler.
c. Both of the above.
d. None of the above.

Q111. Which value of Socket.readyState atribute of WebSocket indicates that the connection has not yet been established?
a. 0 b. 1 c. 2 d. 3

Q112. Which value of Socket. readyState atribute of WebSocket indicates that the connection is established and communication is possible?
a. 0 **b. 1** **c.** 2 d. 3

Q113. Which value of Socket.readyState atribute of WebSocket indicates that the connection is going through the closing handshake?
a. 0 b. 1 **c. 2** d. 3

Q114. Which value of Socket.readyState atribute of WebSocket indicates that the connection has been closed or could not be opened?
a. 0 b. 1 c. 2 **d. 3**

Q115. Which of the following is true about 'canvas' tag in HTML5?
a. HTML5 element <canvas> gives you an easy and powerful way to draw graphics using JavaScript.
b. It can be used to draw graphs, make photo compositions or do simple and not so simplea nimations. c. **Both of the above.**
d. None of the above.

Q116. Which of the following is true about 'audio' tag in HTML5?
a. HTML5 supports <audio> tag which is used to embed sound content in an HTML or XHTML document.
b. The current HTML5 draft specification does not specify which audio formats browsers should support in the audio tag.
c. **Both of the above.**
d. None of the above.

Q117. Which of the following is true about 'audio' tag in HTML5?
a. Commonly used audio formats ogg, mp3 and wav are supported.
b. You can use <source> tag to specify media along with media type and many other attributes.
c. An audio element allows multiple source elements and browser will use the first recognized format.
d. **All of the above.**

Q118. Which of the following is true about 'video' tag in HTML5?
a. HTML5 supports <video> tag which is used to embed a video file in an HTML or XHTML document.
b. The current HTML5 draft specification does not specify which video formats browsers should support in the video tag.
c. Ogg files with Thedora video codec and Vorbis audio codec are supported.
d. **All of the above.**

Q119. Which of the following is true about 'video' tag in HTML5?
a. MPEG4 files with H.264 video codec and AAC audio codec are supported.
b. You can use <source> tag to specify media along with media type and many other attributes.
c. **An video element allows multiple source elements and browser will use the first recognized format.**
d. All of the above.

Q120. Which of the following is correct about geolocation api in HTML5?
a. HTML5 Geolocation API lets you share your location with your favorite web sites.
b. A Javascript can capture your latitude and longitude and can be sent to backend web server and do fancy location-aware things like finding local businesses or showing your location on a map.
c. Today most of the browsers and mobile devices support Geolocation API.
d. **All of the above.**

Q121. Which of the following is correct about geolocation api in HTML5?
a. The geolocation APIs work with a new property of the global navigator object.
b. The geolocation object is a service object that allows widgets to retrieve information about the geographic location of the device.
c. **Both of the above.**
d. None of the above.

Q122. Which of the following method returns a geolocation object in HTML5?
a. navigator.geolocation b. browser.geolocation c. API.geolocation d.None of the above.

Q123. Which of the following method retrieves the current geographic location of the user?
a. geolocation.getCurrentPosition b. geolocation.watchPosition
c) geolocation.clearPosition d. None of the above.

Q124. Which of the following method cancels an ongoing watchPosition call?
a. geolocation.getCurrentPosition b. geolocation.watchPosition
c. geolocation.clearPosition d. None of the above.

Q125. Which of the following is correct about web workers in HTML5?
a. Web Workers do all the computationally expensive tasks without interrupting the user interface and typically run on separate threads.
b. Web Workers allow for long-running scripts that are not interrupted by scripts that respond to clicks or other user interactions.
c. Web Workers allow long tasks to be executed without yielding to keep the page responsive. d. **All of the above.**

Q126. Which of the following attribute specifies a keyboard shortcut to access an element in HTML5?
a. accesskey b. key c. contextmenu d. contextkey

Q127. Which of the following attribute specifies if the user can edit the element's content or not?
a. editable **b. contenteditable** c. contextmenu d. content

Q128. Which of the following attribute specifies the context menu for an element?
a. key b. contextcontent **c. contextmenu** d. context

Q129. Which of the following attribute specifies whether or not a user is allowed to drag an element?
a. drag b. content c. context **d. draggable**

Q130. Which of the following attribute is used to group elements?
a. item b. itemprop c. itemcheck d. itemgroup

Q131. Which of the following attribute is used to group items?
a. item **b. itemprop** c. itemcheck d. itemgroup

Q132. Which of the following attribute specifies if the element must have it's spelling or grammar checked?
a. item b. itemcheck **c. spellcheck** d. itemgroup

Q133. Which of the following attribute triggers event when the document goes offline?
a. offline b. off c. out d. onbeforeonload

Q134. Which of the following attribute triggers an abort event?
a. offline **b. onabort** c. abort d. onbeforeonload

Q135. Which of the following attribute triggers event after the document is printed?
a. offlineprint b. onprint **c. onafterprint** d. onbeforeprint

Q136. Which of the following attribute triggers event before the document loads?
a. offline **b. onabort** c. onload d. onbeforeonload

Q137. Which of the following attribute triggers event before the document is printed?
a. onbeforeprint b. onafterprint c. onprint d. beforeprint

Q138. Which of the following attribute triggers event when the window loses focus?
a. onbeforeload **b. onblur** c. onlostfocus d. lostfocus

Q139. Which of the following attribute triggers event when media can start play, but might has to stop for buffering?
a. onbeforeplay b. onplay **c. oncanplay** d. oncanplaythrough

Q140. Is .htm and .html the same?
a. No b. **Yes**

Q141. What is the difference between XML and HTML?
a. HTML is used for exchanging data, XML is not.
b. **XML is used for exchanging data, HTML is not.**
c. HTML can have user defined tags, XML cannot
d. Both b and c above

Q142. Which tags are most commonly used by search engines?
a. **Heading** b. Title c. Paragraph d. All of above

Q143. What is the <br> tag for?
a. Space b. Paragraph break **c. Line break** d. Word break

Q144. What is the attribute for <image> tag?
a. pt b. url c. path d. **src**

Q145. Can a data cell contain images?
a. **Yes** b. No

Q146. Each list item in an ordered or unordered list has which tag?
a. list tag b. ls tag **c. li tag** d. ol tag

Q147. Which of the following tags below are used for a multi-line text input control?
a. textml tag b. text tag **c. textarea tag** d. Both b and c above

Q148. <meta> tag cannot be defined in the <head> tag.
a. False b. **True**

Q149. Which of the following attributes below are used for a font name?
a. fontname b. fn c. font d. **face**

Q150. Is width="100" and width="100%" the same?
a. **No** b. Yes

Q151. What are tags used for?
a. To replace paragraphs. i.e. p tags b. To logically divide the paragraphs
c. To logically divide the document d. To provide space between tables

Q152. What is cell padding?
a. **Used to separate cell walls from their contents.**
b. Used to set space between cells
c. Both a and b above
d. Used to provide width to a cell

Q153. Can I play audios in HTML?
a. No b. **Yes**

Q154. What attribute is used to specify number of rows?
a. Rownum b. Rownumb c. rn d. **Rowspan**

Q155. What are meta tags used for?
a. To store information usually relevant to browsers and search engines.
b. To only store information usually relevant to browsers
c.To only store information about search engines.
d. To store information about external links

Q156. How can we resize the image?
a. Using resize attribute b. **Using height and width**

c. Using size attribute d. Using rs attribute

Q157. For Frames in HTML, how do you specify the rest of the screen?
a. Using & b. Using $ c. **Using *** d. Using #

Q158. bgcolor is an attribute of body tag
a. **True** b. False

CSS

Q1. Which of the following is correct about CSS?
a. CSS is used to control the style of a web document in a simple and easy way.
b. You can write CSS once and then reuse same sheet in multiple HTML pages.
c. **All of the above.**

Q2. Which of the following is correct about CSS?
a. Style sheets allow content to be optimized for more than one type of device.
b. CSS can store web applications locally with the help of an offline catche.
c. Using CSS, we can view offline websites. The cache also ensures faster loading and better overall performance of the website.
d. **All of the above.**

Q3. Which of the following is a component of CSS style rule?
a. Selector b. Property c. Value **d. All of the above.**

Q4. Which of the following selector matches all elements of a type?
a. The Type Selector b. The Universal Selector
c. The Descendant Selector d. The Class Selector

Q5. Which of the following selector matches the name of any element type?
a. The Type Selector **b. The Universal Selector** c. The Descendant Selector d. The Class Selector

Q6. Which of the following selector matches a particular element only when it lies inside a particular element?
a. The Type Selector b. The Universal Selector **c. The Descendant Selector** d. The Class Selector

Q7. Which of the following selector matches a element based on its class attribute?
a. The Type Selector b. The Universal Selector c. The Descendant Selector d. **The Class Selector**

Q8. Which of the following selector matches a element based on its id?
a. The Id Selector b. The Universal Selector c. The Descendant Selector d. The Class Selector

Q9. How to apply a style to several specific element types?
a. Use the type selector with, delimiter **b.** Use the type selector with .delimiter
c. Use the ID selector with ; delimiter d. Use the ID selector with > delimiter Q10. Which property

Q10. applies a color to text?
a. text-color b. foreground-color c. background-color d. **color**

Q11**.** Which values for font-family property is valid?
a. Times New Roman, serif b. "**Times New Roman", serif**
c. Times New Roman; serif;zz d. "Times New Roman"; "serif";

Q12**.** What does the ID selector do?
a. **Apply the style to a specific element** b. Apply the style to all the elements
d. Apply the style to a group of elements d. Apply the style to elements of the same type

Q13. Which of the following is a way to associate styles with your HTML document?
a. Embedded CSS - The <style> Element b. Inline CSS - The style Attribute
c. Both of the above. d**.** None of the above.

Q14. Which of the following is a way to associate styles with your HTML document?
a. External CSS - The Element b. Imported CSS - @import Rule
c. Both of the above. d. None of the above.

Q15. Which of the following is a true about CSS style overriding?
a. Any inline style sheet takes highest priority. So, it will override any rule defined in tags or rules defined in any external style sheet file.
b. Any rule defined in tags will override rules defined in any external style sheet file.
c. Any rule defined in external style sheet file takes lowest priority, and rules defined in this file will be applied only when above two rules are not applicable. d. **All of the above.**

Q16. Which of the following defines a measurement as a percentage relative to another value, typically an enclosing element?
a. % b. cm c. em d. ex

Q17. Which of the following defines a measurement in centimeters?
a. % b. **cm** **c.** em d. ex

Q18. Which of the following defines a relative measurement for the height of a font in em spaces?
a. % b. cm **c. em** d. ex

Q19. Which of the following defines a measurement relative to a font's x-height?
a. % b. cm c. em **d. ex**

Q20. Which of the following defines a measurement in inches**?**
a. in b**.**mm c. pc d. pt

Q21. Which of the following defines a measurement in millimetre ?
a. in b. **mm** c. pc d. pt

Q22. Which of the following defines a measurement in picas?
a. in b. mm **c. pc** d. pt

Q23. Which of the following defines a measurement in points?

a. in b. mm c. pc d. **pt**

Q24. Which of the following defines a measurement in screen pixels?
a. px d. vh c. vw d. vmin

Q25. Which of the following defines 1% of viewport height?
a. px **b. vh** c. vw d. vmin

Q26. Which of the following is correct about Hex Code format of CSS colors?
a. The first two digitsRR represent a red value. b. The next two are a green valueGG.
c. The last are the blue valueBB. d. **All of the above.**

Q27. Which of the following is correct about Short Hex Code format of CSS colors?
a. This is a shorter form of the six-digit notation.
b. In this format, each digit is replicated to arrive at an equivalent six-digit value.
c. Each hexadecimal code will be preceded by a pound or hash sign '#'.
d. **All of the above.**

Q28. Which of the following is correct about RGB Values format of CSS colors?
a. This color value is specified using the rgb property.
b. This property takes three values, one each for red, green, and blue.
c. The value can be an integer between 0 and 255 or a percentage.
d. All of the above.

Q29. Which of the following is correct about Browser Safe Colors?
a. These are 216 colors which are supposed to be most safe and computer independent colors.
b. These colors vary from hexa code 000000 to FFFFFF.
c. These colors are safe to use because they ensure that all computers would display the colors correctly when running a 256 color palette.
d. **All of the above.**

Q30. Which of the following property is used to set the background color of an element?
a. background-color b. background-image c. background-repeat d. background-position

Q31. Which of the following property is used to set the background image of an element?
a. background-color **b. background-image** c. background-repeat d. background-position

Q32. Which of the following property is used to control the repetition of an image in the background?
a. background-color b. background-image c. **background-repeat** d. background-position

Q33. Which of the following property is used to control the position of an image in the background?
a. background-color b. background-image c. background-repeat **d. background-position**

Q34. Which of the following property is used to control the scrolling of an image in the background?
a. background-attachment b. background c. background-repeat d. background-position

Q35. Which of the following property is used as a shorthand to specify a number of other background properties?
a. background-attachment b. **background** c. background-repeat d. background-position

Q36. Which of the following property is used to change the face of a font?
a. font-family b. font-style c. font-variant d. font-weight

Q37. Which of the following property is used to make a font italic or oblique?
a. font-family **b. font-style** c. font-variant d. font-weight

Q38. Which of the following property is used to create a small-caps effect?
a. font-family b. font-style **c. font-variant** d. font-weight

Q39. Which of the following property is used to increase or decrease how bold or light a font appears?
a. font-family b. font-style c. font-variant **d. font-weight**

Q40. Which of the following property is used to increase or decrease the size of a font?
a. font-size b. font c. font-variant d. font-weight

Q41. Which of the following property is used as shorthand to specify a number of other font properties?
a. font-size b. **font** c. font-variant d. font-weight

Q42. Which of the following property is used to set the color of a text?
a. color b. direction c. letter-spacing d. word-spacing

Q43. Which of the following property is used to set the text direction?
a. color **b. direction** c. letter-spacing d. word-spacing

Q44. Which of the following property is used to add or subtract space between the letters that make up a word?
a. color b. direction **c. letter-spacing** d. word-spacing

Q45. Which of the following property is used to add or subtract space between the words of a sentence?
a. color b. direction c. letter-spacing **d. word-spacing**

Q46. Which of the following property is used to add or subtract space between the words of a sentence?
a. text-indent **b.** text-align c. text-decoration d. text-transform

Q47. Which of the following property is used to align the text of a document?
a. text-indent **text-alignc** c. text-decoration d. text-transform

Q48. Which of the following property is used to underline, overline, and strikethrough text?
a. text-indent b. text-align **c. text-decoration** d. text-transform

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Q49. Which of the following property is used to capitalize text or convert text to uppercase or lowercase letters?
a. text-indent b. text-align c. text-decoration **d. text-transform**

Q50. Which of the following property is used to control the flow and formatting of text?
a. white-space b. text-shadow c. text-decoration d. text-transform

Q51. Which of the following property is used to set the text shadow around a text?
a. white-space **b. text-shadow** **c.** text-decoration d. text-transform

Q52. Which of the following property is used to set the width of an image border?
a. border b. height c. width d. moz-opacity

Q53. Which of the following property is used to set the height of an image?
a. border **b. height** c. width d. moz-opacity

Q54. Which of the following property is used to set the width of an image?
a. border b. height **c. width** d. moz-opacity

Q55. Which of the following property is used to set the opacity of an image?
a. border b. height c. width d. **moz-opacity**

Q56. Which of the following property of a anchor element signifies unvisited hyperlinks?
a. :link b. :visited c. :hover d. :active

Q57. Which of the following property of a anchor element signifies visited hyperlinks?
a. :link **b. :visited** c. :hover d. :active

Q58. Which of the following property of a anchor element signifies an element that currently has the user's mouse pointer hovering over it?
a. :link b. :visited **c. :hover** d. :active

Q59.Which of the following property of a anchor element signifies an element on which the user is currently clicking?
a. :link b. :visited c. :hover **d. :active**

Q60. Which of the following property of a table element specifies whether the browser should control the appearance of the adjacent borders that touch each other or whether each cell should maintain its style?
a. :border-collapse b. :border-spacing c. :caption-side d. :empty-cells

Q61. Which of the following property of a table element specifies the width that should appear between table cells?
a. :border-collapse **b. :border-spacing** c. :caption-side d. :empty-cells

Q62. Which of the following property of a table element controls the placement of the table caption?
a. :border-collapse b. :border-spacing **c. :caption-side** d.- :empty-cells

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Q63. Which of the following property of a table element specifies whether the border should be shown if a cell is empty?
a. :border-collapse b. :border-spacing c. :caption-side **d. :empty-cells**

Q64. Which of the following property of a table element allows browsers to speed up layout of a table by using the first width properties it comes across for the rest of a column rather than having to load the whole table before rendering it?
a. :table-layout b. :border-spacing c. :caption-side d. :empty-cells

Q65. Which of the following property specifies the color of a border?
a. :border-color b. :border-style c. :border-width d. :border-bottom-color

Q66. Which of the following property specifies whether a border should be solid, dashed line, double line, or one of the other possible values?
a. :border-color b. **:border-style** c. :border-width d. :border-bottom-color

Q67. Which of the following property specifies the width of a border?
a. :border-color b. :border-style **c. :border-width** d. :border-bottom-color

Q68. Which of the following property changes the color of bottom border?
a. :border-color b. :border-style c. :border-width **d. :border-bottom-color**

Q69. Which of the following property changes the color of top border?
a. :border-top-color b. :border-left-color c. :border-right-color d. :border-bottom-color

Q70. Which of the following property changes the color of left border?
a. :border-top-color b. **:border-left-color** c. :border-right-color d. :border-bottom-color

Q71. Which of the following property changes the color of right border?
a. :border-top-color b. :border-left-color **c. :border-right-color** d. :border-bottom-color

Q72. Which of the following property changes the style of bottom border?
a. **:border-bottom-style** **b.** :border-top-style c. :border-left-style d. :border-right-style

Q73. Which of the following property changes the style of top border?
a. :border-bottom-style b. **:border-top-style** c. :border-left-style d. :border-right-style

Q74. Which of the following property changes the style of left border?
a. :border-bottom-style b. :border-top-style **c. :border-left-style** d. :border-right-style

Q75. Which of the following property changes the style of right border?
a. :border-bottom-style b. :border-top-style c. :border-left-style **d. :border-right-style**

Q76. Which of the following property changes the width of bottom border?
a. :border-bottom-width b. :border-top-width c. :border-left-width d. :border-right-width

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Q77. Which of the following property changes the width of top border?
a. :border-bottom-width b. **:border-top-width** **c.** :border-left-width d. :border-right-width

Q78. Which of the following property changes the width of left border?
a. :border-bottom-width b. :border-top-width **c. :border-left-width** d. :border-right-width

Q79. Which of the following property changes the width of right border?
a. :border-bottom-width b. :border-top-width c. :border-left-width **d. :border-right-width**

Q80. Which of the following property specifies a shorthand property for setting the margin properties in one declaration?
a. :margin **b.** :margin-bottom c. :margin-top d. :margin-left

Q81. Which of the following property specifies the bottom margin of an element?
a. :margin **b. :margin-bottom** c. :margin-top d. :margin-left

Q82. Which of the following property specifies the top margin of an element?
a. :margin b. :margin-bottom **c. :margin-top** d. :margin-left

Q83. Which of the following property specifies the left margin of an element?
a. :margin b. :margin-bottom c. :margin-top d. **:margin-left**

Q84. Which of the following property specifies the right margin of an element?
a. :margin-right **b.** :margin-bottom c. :margin-top d. :margin-left

Q85. Which of the following property allows you to control the shape or appearance of the marker of a list?
a. list-style-type b. list-style-position c. list-style-image d. list-style

Q86. Which of the following property specifies whether a long point that wraps to a second line should align with the first line or start underneath the start of the marker of a list?
a. list-style-type b. **list-style-position** c. list-style-image d. list-style

Q87. Which of the following property specifies an image for the marker rather than a bullet point or number?
a. list-style-type b. list-style-position **c. list-style-image** d. list-style

Q88. Which of the following property serves as shorthand for the marker properties?
a. list-style-type b. list-style-position c. list-style-image **d. list-style**

Q89. Which of the following property specifies the distance between a marker and the text in the list?
a. marker-offset b. list-style-position c. list-style-image d. list-style

Q90. Which of the following property specifies the bottom padding of an element?
a. padding-bottom b. padding-top c. padding-left d. padding-right

Q91. Which of the following property specifies the top padding of an element?
a. padding-bottom **b. padding-top** c. padding-left d. padding-right

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Q92. Which of the following property specifies the left padding of an element?
a. padding-bottom b. padding-top **c. padding-left** d. padding-right

Q93. Which of the following property specifies the right padding of an element?
a. padding-bottom b. padding-top c. padding-left **d. padding-right**

Q94. Which of the following property serves as shorthand for the padding properties?
a. padding b. padding-top c. padding-left d. padding-right

Q95. Which of the following value of cursor shows it as crosshair or plus sign?
a. crosshair b. default c. pointer d. move

Q96. Which of the following value of cursor shows it as an arrow?
a. crosshair **b. default** c. pointer d. move

Q97. Which of the following value of cursor shows it as a pointing hand?
a. crosshair b. default **c. pointer** d. move

Q98. Which of the following value of cursor shows it as the 'I' bar?
a. crosshair b. default c. pointer **d. move**

Q99. What does CSS stand for?
a. Creative Style Sheets b. Computer Style Sheets **c. Cascading Style Sheets**
d. Cascade Style Sheets e. Colorful Style Sheets

Q100. Where in an HTML document is the correct place to refer to an external style sheet?
In the <body> section
a. At the end of the document b. At the top of the document
c. **In the <head> section** d. Between head and body

Q101. Which HTML tag is used to define an internal style sheet?
a. css b. text/style **c. style** d. script

Q102. Which HTML attribute is used to define inline styles?
a. font b. styles c. css d. text **e. style**

Q103. Which is the correct CSS syntax?
a. body {color: black} b. body:color=black c. {body:color=black(body} d. {body;color:black}

Q104. How do you insert a comment in a CSS file?
a. /*this is a comment */ **b.** 'this is a comment c. // this is a comment// b. //this is a comment

Q105. Which property is used to change the background color?
a. bgcolor: b. **background-color:** **c.** color:

Q106. How do you add a background color for all "<h1>" elements?
a. all.h1 {background-color:#FFFFFF}
b. h1.all {background-color:#FFFFFF}
c. **h1 {backgroundcolor:#FFFFFF}**

Q107. How do you change the text color of an element?
a. text-color: **b. color:** c. text-color= d. font-color:

Q108. Which CSS property controls the text size?
a. font-style b. text-style **c. font-size** d. text-size

Q109. What is the correct CSS syntax for making all the <p> elements bold?
a. p {text-size:bold} **b. p {font-weight:bold}** c. style:bold d. p{font:bold}

Q110. How do you display hyperlinks without an underline?
a. a {decoration:no underline} b. a {text-decoration:no underline}
c. a {underline:none} **d. a {text-decoration:none}**

Q111. How do you make each word in a text start with a capital letter
a. text-transform:uppercase
b. text-transform:capitalize
c. You can't do that with CSS

Q112. How do you change the font of an element?
a. fon-face: **b.font-family:** c. f: d. font-style:

Q113. How do you make the text bold?
a. font:b b. style:bold **c. font-weight:bold**

Q114. How do you display a border like this: The top border = 10 pixels, The bottom border = 5 pixels, The left border = 20 pixels, The right border = 1pixel?
a. border-width:10px 20px 5px 1px b. border-width:10px 1px 5px 20px
c. border-width:10px 5px 20px 1px d. border-width:5px 20px 10px 1px Q115.

Q115. How do you change the left margin of an element?
a. padding: b. indent: c. margin: d. text-indent: **e. margin-left:**

Q116. To define the space between the element's border and content, you use the padding property, but are you allowed to use negative values?
a. Yes **b. No**

Q117. How do you make a list that lists its items with squares?
a. type: square **b. list-style-type: square** c. list-type: square d. style-list: square

Q118. What is the correct HTML for referring to an external style sheet?
a. **<link rel="stylesheet" type="text/css" href="mainstyle.css">**

b. <style src="mainstyle.css">
c. <stylesheet>mainstyle.css</stylesheet>
d. <link url="stylesheet" type="text/css" href="mainstyle.css">

Q119. What is the correct CSS syntax for making all the <p> elements bold?
a. p {font-weight:bold} **b.** p {text-size:bold}
c. <p style="text-size:bold"> d.<p style="font-size:bold">

Q120. How do you make each word in a text start with a capital letter?
a. text-transform:capitalize b. text-transform:uppercase c. You can't do that with CSS

Q121. What are the three methods for using style sheets with a web page
a. Dreamweaver, GoLive or FrontPage
b. Inline, embedded or document level and external
c. Handcoded, Generated or WYSIWYG

Q122. Which of the following styles is recommended?
a. In-Line styles b. **External styles** c. Embedded styles d. Multiple styles

Q113. In what form are style rules presented?
a. selector { property: value } **b.** selector { property= value }
c. selector (property: value) d. selector (property= value)

Q114. What selector should you use when applying a style to multiple elements?
a. ID **b. Class** c.Type d. Any of the above

PHP

Q1. What PHP stands for?
a. Hypertext Preprocessor b. Pre Hypertext Processor c. Pre Hyper Processor d. Pre Hypertext Process

Q2. Which of the following tags is not a valid way to begin and end a PHP code block?
a. <% %> b. <? ?> c. <?php ?> d. **<! !>**

Q3. How does the identity operator === compare two values?
a. It converts them to a common compatible data type and then compares the resulting values
b. **It returns True only if they are both of the same type and value**
c. If the two values are strings, it performs a lexical comparison
d. It bases its comparison on the C strcmp function exclusively
e. It converts both values to strings and compares them

Q4. Variables always start with a ..... in PHP
a. Pond-sign b. Yen-sign **c. Dollar-sign** d. Euro-sign

Q5. What is the value displayed when the following is executed? Assume that the code was executed using the following URL: testscript.php?c=25

```
<?php
function process($c, $d = 25)
```

```
{
global $e;
$retval = $c + $d - $_GET['c'] - $e;
return $retval;
}
$e = 10;
echo process(5);
?>
```

a. 25 **b. -5** **c.** 10 d. 5 e. 0

Q6. PHP is an open source software

a. True b. False

Q7.Which of the following is not valid PHP code?

a. $_10 b. ${"MyVar"} c. &$something **d. $10_somethings** e. $aVaR

Q8.PHP runs on different platforms (Windows, Linux, Unix, etc.)

a. True b. False

Q9. Array values are keyed by _____ values (called indexed arrays) or using _____ values (called associative arrays). Of course, these key methods can be combined as well.

a. Float, string b. Positive number, negative number
c. Even number, string d. String, Boolean **e. Integer, string**

Q10. What will the following script output?

```
<?php
$array = array (1, 2, 3, 5, 8, 13, 21, 34, 55);
$sum = 0;  for ($i =
0; $i < 5; $i++) {
$sum += $array[$array[$i]];
}
echo $sum;
?>
```

a. 78 b. 19 c. NULL d. 5 e. 0

Q11. What elements will the following script output?

```
<?php
$array = array (true => 'a', 1 => 'b');
Var_dump ($array);
?>
```

a. 1 => 'b' b. **True => 'a', 1 => 'b'** **c.** 0 => 'a', 1 => 'b' d. None e. It will output NULL

Q12.There are three different kind of arrays:

a. Numeric array, String array, Multidimensional array
b. Numeric array, Associative array, Dimensional array
c. **Numeric array, Associative array, Multidimensional array**
d. Const array, Associative array, Multidimensional array

Q13. Assume you would like to sort an array in ascending order by value while preserving key associations. Which of the following PHP sorting functions would you use?
a. ksort() **b. asort()** c. krsort() d. sort() e. usort()

Q14. What function computes the difference of arrays?
a. array_diff b. diff_array c. arrays_diff d. diff_arrays

Q15. What functions count elements in an array?
a. count b. Sizeof c. Array_Count d. Count_array

Q16. What array will you get if you convert an object to an array?
a. An array with properties of that object as the array's elements.
b. An array with properties of that array as the object's elements.
c. An array with properties of that object as the Key elements.
d. An array with keys of that object as the array's elements.

Q17. How do you write "Hello World" in PHP
a. "Hello World"; **b. echo "Hello World";** c. Document.Write d.("Hello World");

Q18. What is the correct way to end a PHP statement?
a. New Line **b. ;** c. . d. </php>

Q19.The PHP syntax is most similar to:
a. VBScript b. JavaScript **c. Perl and C**

Q20.How do you get information from a form that is submitted using the "get" method?
a. Request.Form; **b. $_GET[];** c. Request.QueryString

Q21. When using the POST method, the variables are displayed in the URL:
a**. False** b. True

Q22. In PHP you can use both single quotes (' ') and double quotes (" ") for strings:
a**. True** b. False

Q23. Include files must have the file extension ".inc"
a. True **b. False**

Q24. What is the correct way to include the file "time.inc"?
a. <% include file= "time.inc" % > b. <?php jnclude_file("time.inc"); ?>
c. <?php require("time.inc"); ?> d. <!- - include file= "time.inc"- - >

Q25.What is the correct way to create a function in PHP?
a. create myFunction() b. new_function myFunction( ) **c. function myFunction( )**

Q26. What is the correct way to open the file "time.txt" as readable?
a. open("time,txt", "read"); b. open("time.txt");

c. fopen("time.txt", "r"); d. fopen("time.txt", "r+");

Q27. PHP allows you to send emails directly from a script
a. False b**. True**

Q28. What is the correct way to add 1 to the $count variable?
a. $count+ +; b. + + count c. $count = +1 d. count+ +;

Q29. What is a correct way to add a comment in PHP?
a. <comment>…</comment> **b. /*…*/** c. *\..* d. <!- - …- - >

Q30.PHP can be run on Microsoft Windows IIS (Internet Information Server):
a. True b . False

Q31. Which of the following is correct about PHP?
a. PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
b. PHP is a server side scripting language that is embedded in HTML.
c. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. **d. All of the above**.

Q32. Which of the following is correct about PHP?
a. PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
b. PHP can handle forms, i.e. gather data from files, save data to a file, thru email you can send data, return data to the user.
c. You add, delete, modify elements within your database thru PHP. d. **All of the above**.

Q33. Which of the following is correct about PHP?
a. PHP can access cookies variables and set cookies.
b. Using PHP, you can restrict users to access some pages of your website. c. It can encrypt data.
d. **All of the above**.

Q34. Using which of the following way can you embed PHP code in an HTML page?
a. <?php PHP code goes here ?> b. <? PHP code goes here ?>
c. <script language="php"> PHP code goes here </script> d. All of the above.

Q35. Which of the following is true about php.ini file?
a. The PHP configuration file, php.ini, is the final and most immediate way to affect PHP's functionality.
b. The php.ini file is read each time PHP is initialized.
c. **Both of the above.**
d. None of the above.

Q36. Which of the following is true about php.ini file?
a. The PHP configuration file, php.ini, is the final and most immediate way to affect PHP's functionality.
b. The php.ini file is read each time PHP is initialized.
c. Both of the above.
d. None of the above.

Q37. Is PHP whitespace sensitive?
a. **false** b. true
Q38. Is PHP case sensitive?
a. false **b. true**

Q39. Which of the following is true about php variables?
a. All variables in PHP are denoted with a leading dollar sign ($).
b. The value of a variable is the value of its most recent assignment.
c. Variables are assigned with the = operator, with the variable on the left-hand side and the expression to be evaluated on the right.
d. **All of the above.**

Q40. Which of the following is true about php variables?
a. Variables can, but do not need, to be declared before assignment.
b. Variables in PHP do not have intrinsic types - a variable does not know in advance whether it will be used to store a number or a string of characters.
c. **Both of the above.**.
d. All of the above.

Q41. Which of the following type of variables are whole numbers, without a decimal point, like 4195?
a. **Integers** b. Doubles c. Booleans d. Strings

Q42. Which of the following type of variables are floating-point numbers, like 3.14159 or 49.1?
a. Integers b. **Doubles** c. Booleans d. Strings

Q43. Which of the following type of variables have only two possible values either true or false?
a. Integers b. Doubles **c. Booleans** d. Strings

Q44. Which of the following type of variables are special type that only has one value: NULL?
a. Strings b. Doubles c. Booleans d. **NULL**

Q45. Which of the following type of variables are sequences of characters, like 'PHP supports string operations.'?
a. Strings b. **Arrays** c. Objects d. Resources

Q46. Which of the following type of variables are named and indexed collections of other values?
a. Strings b. **Arrays** c. Objects d. Resources

Q47. Which of the following type of variables are instances of programmer-defined classes?
a. Strings b. **Arrays** c. Objects d. Resources

Q48.Which of the following type of variables are special variables that hold references to resources external to PHP (such as database connections)?
a. Strings b. Arrays c. Objects d. **Resources**

Q49. Which of the following is correct about variable naming rules?

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a. Variable names must begin with a letter or underscore character.
b. A variable name can consist of numbers, letters, underscores.
c. you cannot use characters like + , - , % , (,) . & , etc in a variable name. d. **All of the above**.

Q50. Which of the following is correct about determine the "truth" of any value not already of the Boolean type?
a. If the value is a number, it is false if exactly equal to zero and true otherwise.
b. If the value is a string, it is false if the string is empty (has zero characters) or is the string "0", and is true otherwise.
c. Values of type NULL are always false.
d. **All of the above.**

Q51.Which of the following is correct about determine the "truth" of any value not already of the Boolean type?
a. If the value is an array, it is false if it contains no other values, and it is true otherwise. For an object, containing a value means having a member variable that has been assigned a value.
b. Valid resources are true (although some functions that return resources when they are successful will return FALSE when unsuccessful).
c. Don't use double as Booleans.
d. **All of the above**.

Q52. Which of the following is correct about NULL?
a. NULL is a special type that only has one value: NULL.
b. The special constant NULL is capitalized by convention, but actually it is case insensitive.
c. **Both of the above**. d. None of the above.

Q53. Which of the following is correct about NULL?
a. A variable that has been assigned NULL evaluates to FALSE in a Boolean context.
b. A variable that has been assigned NULL returns FALSE when tested with IsSet() function.
c. **Both of the above.** d. None of the above.

Q54. Which of the following is correct about constants?
a. Unlike with variables, you do not need to have a constant with a $.
b. Only scalar data (boolean, integer, float and string) can be contained in constants.
c. B**oth of the above**. d. None of the above.

Q55.Which of the following function returns selected parts of an array?
a. array_reverse() b. array_search() c. array_shift() d. **array_slice()**

Q56. Which of the following function returns the sum of the values in an array?
a. array_sum() b. array_splice() c. array_udiff() d. array_udiff_assoc()

Q57.Which of the following function checks if a specified value exists in an array?
a. extract() **b. in_array()** c. key() d. krsort()

Q58. Singly quoted strings are treated almost literally, whereas doubly quoted strings replace variables with their values as well as specially interpreting certain character sequences. **a. true** b. false

Q59. Doubly quoted strings are treated almost literally, whereas singly quoted strings replace variables with their values as well as specially interpreting certain character sequences.
a. true b. **false**

Q60. How will you concatenate two strings?
a. **Using . operator.** b. Using + operator. c. Using add() function d. Using append() function

Q61. If there is any problem in loading a file then the require() function generates a warning but the script will continue execution.
a. true **b. false**

Q62. If there is any problem in loading a file then the include() function generates a warning but the script will continue execution.
a. **true** b. false

Q63. Which of the following function opens a file?
a. **fopen()** b. fread() c. filesize() d. file_exist()

Q64. Which of the following function is used to read the content of a file?
a. fopen() b. **fread()** c. filesize() d. file_exist()

Q65. Which of the following function is used to get the size of a file?
a. fopen() b. fread() **c. filesize()** d. file_exist()

Q66. Which of the following function is used to check if a file exists or not?
a. fopen() b. fread() c. filesize() d. **file_exist()**

Q67. Can you assign the default values to a function parameters?
a. **true** b. false

Q68.Which of the following is used to set cookies?
a. setcookie() function b. $_COOKIE variable c. $HTTP_COOKIE_VARS variable d. isset() function

Q69. Which of the following is used to get cookies?
a. getcookie() function **b. $_COOKIE variable** c. isset() function d. None of the above.

Q70. Which of the following is used to check that a cookie is set or not?
a. getcookie() function b. $_COOKIE variable **c. isset() function** d. None of the above.

Q71. Which of the following is used to delete a cookie?
a. setcookie() function b. $_COOKIE variable c. isset() function d. None of the above.

Q72. Which of the following is used to create a session?
a. session_start() function **b. $_SESSION[]** c. isset() function d. session_destroy() function

Q73. Which of the following is used to access session variables in PHP?
a. session_start() function b. $_SESSION[] c. isset() function d. session_destroy() function

Q74. Which of the following is used to check if session variable is already set or not in PHP?
a. session_start() function b. $_SESSION[] c. **isset() function** d. session_destroy() function

Q75. Which of the following is used to destroy the session?
a. session_start() function b. $_SESSION[] c. isset() function d. **session_destroy() function**

Q76. Which of the following provides access to the uploaded file in the temporary directory on the web server?
a. $_FILES['file']['tmp_name'] b. $_FILES['file']['name'] c. $_FILES['file']['size'] d. $_FILES['file']['type']

Q77. Which of the following provides the actual name of the uploaded file?
a. $_FILES['file']['tmp_name'] **b. $_FILES['file']['name']** c. $_FILES['file']['size'] d. $_FILES['file']['type']

Q78.Which of the following provides the size of the uploaded file in PHP?
a. $_FILES['file']['tmp_name'] b. $_FILES['file']['name'] c. **$_FILES['file']['size']** d. $_FILES['file']['type']
Q79. Which of the following provides content type of the uploaded file in PHP?
a. $_FILES['file']['tmp_name'] b. $_FILES['file']['name'] c. $_FILES['file']['size'] d. $_FILES['file']['**type**']

Q79. Which of the following is correct about constants?
a. To define a constant you have to use define() function.
b. To retrieve the value of a constant, you have to simply specify its name.
c. **Both of the above.**
d. None of the above.

XML

Q1. What does XML stand for?
a. Example Markup Language b. X-Markup Language
c. **extensible Markup Language** d. eXtra Modern Link

Q2. There is a way of describing XML data, how?
a. **XML uses a DTD to describe the data**
b. XML uses a description node to describe data
c. XML uses XSL to describe data

Q3. XML's goal is to replace HTML
a. **False** b. True

Q4. What is the correct syntax of the declaration which defines the XML version?
a. <xml version= "1.0"/> b. <?xml version= "1.0"/> **c. <?xml version = "1.0"?>**

Q5. What does DTD stand for?
a. Dynamic Type Definition b. Direct Type Definition

c. Document Type Definition d. Do the Dance

Q6. Is this a "well formed" XML document?

```
<?xml version= "1.0"?>
<note>
<to>Tove</to>
<from>Jani</from>
<heading>Reminder</heading>
<body>Don't forget me this weekend!</body>
</note>
```

a. No **b.Yes**

Q7. Is this a "well formed" XML document?

```
<?xml version= "1.0"?>
<to>Tove</to>
<from>Jani</from>
<heading>Reminder</heading>
<body>Don't forget me this weekend!</body>
```

a. No b. Yes

Q8. Which statement is true?

a. All XML documents must have a DTD
b. All XML elements must be lower case
c. **All XML elements must be properly closed**
d. All the statements are true

Q9. Which statement is true?

a. XML tags are case sensitiv
b. XML documents must have a root tag
c. XML elements must be properly nested
d. All the statements are true

Q10. XML preserves white spaces

a. True **b. False**

Q11. Is this a "well formed" xml document?

```
<?xml version= "1.0"?>
<note>
<to age= "29">Tove</to>
<from>Jani</from>
</note>
```

a. Yes b. No

Q12. Is this a "well formed" xml document?

```
<?xml version= "1.0"?>
<note>
<to age= 29>Tove</to>
<from>Jani</from>
</note>
```

a. Yes **b. No**

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Q13. XML elements cannot be empty
a. **False** b. True

Q14. Which is not a correct name for an XML element?
a. <Note> b. All 3 names are incorrect **c. <1 dollar>** d. <h1>

Q15. Which is not a correct name for an XML element?
a. <NAME> **b. <first name>** c. <age> d. All 3 names are incorrect

Q16. Which is not a correct name for an XML document?
a. <xmldocument> b. <phone number> **c. All 3 names are incorrect** d. <7eleven>

Q17. XML attribute values must always be enclosed in quotes
a. False b. **True**

Q18. What does XSL stand for?
a. eXtra Style Language b. eXtensible Style Listing
c. eXpandable Style Language d. **eXtensible Stylesheet Language**

Q19. What is a correct way of referring to a stylesheet called "mystyle.xsl"?
a. <stylesheet type= "text/xsl" href= "mystyle.xsl"/>
b. <link type="text/xsl" href="mystyle.xsl" />
c. **<?xml-stylesheet type="text/xsl" href="mystyle.xsl" ?>**

Q20. For the XML parser to ignore a certain section of your XML document, which syntax is correct?
a. <CDATA> Text to be ignored </CDATA> **b. <![CDATA[Text to be ignored]]>**
c. <xml:CDATA[Text to be ignored]> d. <PCDATA> Text to be ignored </PCDATA>

Q21. Which statement is true?
a. All the statements are true **b. All XML elements must have a closing tag**
c. All XML elements must be lower case d. All XML documents must have a DTD

Q22. Is it easier to process XML than HTML?
a. Yes b. No c. Sometimes d. Cant say

Q23. Which of the following programs support XML or XML applications?
a. Internet Explorer 5.5 b. Netscape 4.7 c. RealPlayer. **d. both 1 and 2**

Q24. Kind of Parsers are
a. well-formed b. well-documented **c. non-validating and validating** d. none of the above

Q25. Well formed XML document means
a. it contains a root element
b. it contain an element

c. it contains one or more elements
d. **must contain one or more elements and root element must contain all other elements**

Q26. Comment in XML document is given by
a. <?-- --> b. <!-- --!> **c. <!-- -->** d. </-- -- >

Q27. Which of the following strings are a correct XML name?
a. _myElement b. my Element c. #myElement d. None of the above

Q28. Which of the following XML fragments are well-formed?
a. <?xml?> **b. <?xml version="1.0"?>**
c. <?xml encoding="JIS"?> d. <?xml encoding="JIS" version="1.0"?>

Q29.Valid XML document means (most appropriate)
a. the document has root element
b. the document contains atleast one or more root element
c. **the XML document has DTD associated with it & it complies with that DTD**
d. Each element must nest inside any enclosing element property

Q30. XML uses the features of
a. HTML b. XHTML c. VML **d. SGML**

Q31. Which of the following XML documents are well-formed?
a. <firstElement>some text goes here
<secondElement>another text goes here</secondElement>
</firstElement>
b. <firstElement>some text goes here</firstElement>
<secondElement> another text goes here</secondElement>
c. <firstElement>some text goes here
<secondElement> another text goes here</firstElement>
</secondElement>
d. </firstElement>some text goes here
</secondElement>another text goes here<secondElement>
<firstElement>

Q32. To use the external DTD we have the syntax
a. <?xml version="1.0" standalone="no"?> <! DOCTYPE DOCUMENT SYSTEM "order.dtd"?>
b. <?xml version="1.0" standalone="yes"?> <! DOCTYPE DOCUMENT SYSTEM "order.dtd"?>
c. <?xml version="1.0" standalone="no"?> <! DOCTYPE DOCUMENT "order.dtd"?>
d. <?xml version="1.0" standalone="yes"?> <! DOCTYPE DOCUMENT SYSTEM "order.dtd"?>

Q33. The syntax for parameter entity is
a, **<! ENTITY % NAME DEFINITION>** b. < ENTITY % NAME DEFINITION>
c. <! ENTITY $ NAME DEFINITION> d. < ENTITY % NAME DEFINITION>

Q34. Which of the following XML fragments are well-formed?

a. **<myElement myAttribute="someValue"/>** b. <myElement myAttribute=someValue/>
c. <myElement myAttribute='someValue'> d. <myElement myAttribute="someValue'/>

Q35. how to include external dtd in xml file
a. <!DOCTYPE rootnode SYSTEM "name of dtd file"> b. <!DOCTYPE childnode SYSTEM "name of dtd file">
c. <!DOCTYPE rootnode src="name of dtd file"> d. <!DOCTYPE SYSTEM "name of dtd file">

JSON

Q1. JSON stands for
a. java source object notes **b. javascript object notation** c. javascript orientation d. none

Q2.JSON is
a. **language and platform independent**
b. language dependent and platform independent
c. language independent and platform dependent d. none

Q3. Json is used to
a. Transfer data as key value pair b. Transfer data as image c. Transfer data as arraylist d. None

Q4.To send data as Jason in php we use
a. **json_encode();** b. encode_json() c. parsejson d. none

Q5.To read json data received from server javascript use
a. parseJSON(); b. parseHTML(); c. parseOBJECT() d. none

AJAX

Q1. Using AJAX we can make our web page
a. More inactive and faster b. Easy to connect web page with server
c. more dynamic d. none

Q2. XML Http Request object is a part of
a. W3C andard b. DOM Level 3 c. both 1 and 2 d. none

Q3. AJAX is combination of
a. java+css+xml b. java+css+DOM+xml c. **avascript+css+DOM+XMLHttpRequest**

Q4. What is AJAX?
a. **AJAX = Asynchronous JavaScript and XML.** b. AJAX = Asynchronous rquest and XML.
c. AJAX = Asynchronous JavaScript and HTML d. None

Q5. Ajax request pass through total how many readystate
a. 5 b. 4 c. 3 d. none

Q6. which Ajax property is used to read data from server

a. responseText b. responsetext c. responsedata d. none

Q7. Which method of Ajax hit server
a. send b. Hit c. Go d. none

Web Security

Q1. What is XSS stands for
a. Cross Site Scripting b. Extended site security c. None

Q2. ____ commonly targets scripts embedded in a page which are executed on the client-side (in the user's web browser) rather than on the server-side
a. XSS b. SQL Injection c. None

Q3. attack by which fraudsters impersonate a legitimate company and attempt to steal people's personal information or login credentials is called
a. Phishing email b. SQL Injection c. None

Q4. When developers fail to protect their users sensitive information such as user names, passwords, and session tokens there is a possibility of _____.
aSQL Injection
a. Insecure Direct Object Reference
b. **Cross-Site Request Forgery**
c. Broken Authentication and Session Management

Q5. A security measure to stop unauthorized access to documents is:
a. Network access control. b. Business continuity/disaster recovery.
c. Physical access restrictions. d. Backup/restore.

Q6. What is an example of vulnerabilities in web-based programs and environments?
a) SQL injection b) Cross-site scripting c) **All of the above** d) none of the above

Q7. CSRF is stand for
a) **Cross-Site Request Forgery** b) Cross script format
c) Cascading script format d) Cross site required format

Q8. The placement of malicious code in SQL statements, via web page input. Is called
a) SQL injection b) Cross-Site Request Forgery c) None

Q9. Phishing is form of___
a) Spamming b) Identity Theft c) **Impersonation**

Q10. Sniffing is used to perform___
a) Passive stack b) **Active** stack c) None

Q11. What is the best statement for taking advantage of a weakness in the security of an IT System
a) Threat b) Attack c) Vulnerability

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UI

1) Which of the following is correct about Bootstrap?
a. Bootstrap is a sleek, intuitive, and powerful, mobile first front-end framework for faster andeasier web development.
b. It uses HTML, CSS and Javascript.
c. Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter.
d. **All of the above.**

2) Which of the following is correct about Bootstrap?
a. Bootstrap's responsive CSS adjusts to Desktops,Tablets and Mobiles.
b. Provides a clean and uniform solution for building an interface for developers.
c. It contains beautiful and functional built-in components which are easy to customize.
d. **All of the above.**

3) Which of the following is a part of Mobile First Strategy of Bootstrap?
a. Content: Determine what is most important.
b. Layout: Design to smaller widths first. Base CSS address mobile device first; media queriesaddress for tablet, desktops.
c. Progressive Enhancement: Add elements as screen size increases.
d. **All of the above.**

4) Which of the following is correct about Bootstrap Grid System?
a. Rows must be placed within a .container class for proper alignment and padding.
b. Use rows to create horizontal groups of columns.
c. Content should be placed within the columns, and only columns may be the immediate childrenof rows.
d. All of the above.

5) Which of the following is correct about Bootstrap Grid System?
a. Predefined grid classes like .row and .col-xs-4 are available for quickly making grid layouts. LESSmixins can also be used for more semantic layouts.
b. Columns create gutters (gaps between column content) via padding. That padding is offset inrows for the first and the last column via negative margin on .rows.
c. Grid columns are created by specifying the number of twelve available columns you wish tospan. For example, three equal columns would use three .col-xs-4.
d. **All of the above.**

6) Which of the following is correct about Bootstrap Media Query?
a. It simply applies some CSS, based on certain conditions set forth. If those conditions are met,the style is applied.
b. **Both of the above.**
c. None of the above.

7) Which of the following is correct about Bootstrap Media Query?
a. Media queries have two parts, a device specification and then a size rule.
b. Media Queries in Bootstrap allow you to move, show and hide content based on the viewportsize. **c.**

Both of the above.
d. None of the above.

8) Which of the following is correct about Bootstrap Mobile First Strategy?
a. You need to add the viewport meta tag to the element, to ensure proper rendering and touch zooming on mobile devices.
b. width property controls the width of the device. Setting it to device-width will make sure thatit is rendered across various devices (mobiles,desktops,tablets...) properly.
c. initial-scale=1.0 ensures that when loaded, your web page will be rendered at a 1:1 scale, andno zooming will be applied out of the box.
d. **All of the above.**

9) Which of the following is correct about Bootstrap Responsive Images?
a. Bootstrap 3 allows you to make the images responsive by adding a class ..img-responsive tothe <.img> tag.
b. ..img-responsive class applies max-width: 100%; and height: auto; to the image so that itscales nicely to the parent element.
c. **Both of the above.**
d. None of the above.

10) Which of the following is correct about Bootstrap cross browser consistency?
a. Bootstrap uses Normalize to establish cross browser consistency.
b. Normalize.css is a modern, HTML5-ready alternative to CSS resets.
c. Normalize.css is a small CSS file that provides better cross-browser consistency in the defaultstyling of HTML elements.
d. **All of the above.**

11) Which of the following class styles a table as a nice basic table with just some light padding and horizontal dividers?
a. table b. table-striped c. table-bordered d. table-hover

12) Which of the following class styles a table as a nice basic table with stripes on rows?
a. table **b. table-striped** c. table-bordered d. table-hover

13) Which of the following class styles a table with borders surrounding every element and rounded corners around the entire table?
a. table b. table-striped **c. table-bordered** d. table-hover

14) Which of the following class styles a table with a light gray background to rows while the cursor hovers over them?
a. table b. table-striped c. table-bordered **d. table-hover**

15) Which of the following class applies the hover color to a particular row or cell of a table?
a. active b. success c. warning d. danger

16) Which of the following class indicates a successful or positive action?
a. active **b. success** c. warning d. danger

17) Which of the following class indicates a warning that might need attention?
a. active b. success **c. warning** d. danger

18) Which of the following class indicates a dangerous or potentially negative action?
a. active **b.** success c. warning **d. danger**

19) Which of the following class can be used to create a responsive table?
a. table-responsive **b**. responsive c. active d. table

20) Which of the following is the default layout of a bootstrap form?
a. vertical b. inline c. horizontal d. None of the above.

21) Which of the following class is required to be added to form tag to make it inline?
a. inline b**. form-inline** c. horizontal d. None of the above.

22) Which of the following class is required to be added to form tag to make it horizontal?
a. horizontal b**. form-horizontal** c. horizontal d. None of the above.

23) Which of the following is true about bootstrap help text?
a. Bootstrap form controls can have a block level help text that flows with the inputs.
b. To add a full width block of content, use the .help-block after the <input>.
c. **Both of the above.**
d. None of the above.

24) Which of the following bootstrap style of button creates a default/ standard button?
a.btn b. btn-primary c. btn-success d. btn-info

25) Which of the following bootstrap style of button provides extra visual weight and identifies the primary action in a set of buttons?
a.btn **b. btn-primary** c. btn-success d. btn-info

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HIBERNATE

1. Hibernate entity can be

A: transient B: detached C: persistent **D: all of the above**

2. When transaction completes, all the associated persistent objects still exists in memory but they lose

their association with the session on encountering one of the following method

A: session.flush() B: trasaction.close() **C: session.close()**

D: none of the above

2. In hibernate,If the developer is not certain about the existence of the object. A: load() method should be used

B: get() method should be used

C: retrieve() method should be used

D: all the above are same with not much difference.

3. One of the following is not an interface from Hibernate core interfaces.

A: SessionFactory B: Session **C: ConnectionFactory** D: Transaction

4. Session interface does

A: JDBC connection

B: gets Transaction

C: holds cache of persistent objects

D: all of the above

5. One of the following persist element index

A: <bag> **B: <list>** C: <set> D: <map>

6. Which statement is wrong?

A: HQL is case insensitive for class names and properties

B: SQL operates on relations, HQL operates on objects.

C: HQL is ultimately generated into underlying SQL.
D: HQL supports polymorphic queries.

7. A join which combines result of both left and right outer join is

A: Left Right Join B: Right Outer Join **C: Full Join** D: Left Join

8. Which class is used to create EntityManagerFactory ?

A: Persistence B: EntityManager C: EntityTranscation D: EntityFactory

9. One of the following is ORM implementation

A: struts B: JSF **C: hibernate** D: spring

10. After EntityManager is closed, entity is in a _____ state.

A: dead **B: detached** C: managed D: persistent

11. What is the root tag element in the hibernate configuration file?

A: <hibernate-cfg> B: <hibernate-conf>
C: <hibemate-configuration> D: <hibemate>

12. Once the hibernate session is closed, in which state the object remains?

A: detached B: transient C: pesistent D: garbage collector

13. What is the root level element in hibernate mapping file?

A: <hibernate-mapping> B: <session-mapping> C: <sessionfactory-mapping> D: None of the above

15. What does <generator-class="native"/> means?

A: Generate primary key
B: Generate tables based on configuration
C: Generate sql statements on configuration D: None

16. What does hibernate.hbm2ddl.auto.create this means?

A: Create tables automatically B: Create session object automatically C: Create session factory object automatically D: None.

17. Which statement is correct about Hibernate?

A: **The CacheMode controls how a particular session interacts with the second-level cache.**
B: The CacheMode doesn't control session interaction with the second-level cache. C: Both the above
D: None of the above

18. When we integrate Hibernate via spring we don't need to take care of. A: SessionFactory
B: Session
C: Both a and b. (since there is something called as "HibernateTemplate" in spring)
D: None of the above.

19. What is dirty checking in Hibernate?
A: object state changes in order to synchronize the updated state with the database B: Remove the dirty data from data base.
C: Check the data when insert into data base. D: None

20. What is the root level element in a hibernate mapping file?
A: < hibernate-mapping> B: <session-mapping>
C: < sessionfactory-mapping> D: none of the above

21. What does session.evict() method do?
A: remove the object and its collections from the first level cache
B: remove the object and its collections from the second level cache
C: remove the object and its collections from the data base D: None of the above

22. What does hibernate.hbm2ddl.auto create this means?
A: create session object automatically
B: create tables automatically
C: create Session Factory object automatically D: None

23. Is Hibernate Session threadsafe?
A: Yes **B: no** C: no relation with thread D: none

24. Which 2nd level cache is better in hibernate?
A: EHCache B: GumoCache C: DASCache D: TestCache

25. Which statement is correct about session.load()?
A: load() will return null if there is no matching database row.
B: load() will throw an unrecoverable exception if there is no matching database row. C: None of the above.

26. Which of the following is tag of hibernate.cfg.xml?
A: SQL variant to generate B: Size of the database
C: All of the above D: None of the above

27. How do we get a session object?

A: SessionFactory.get(); B: (session)SessionFactory.getObject();
C: SessionFactory.getSession(); **D: SessionFactory.openSession();**

28. How to enable query cache in hibernate?
A: hibernate.cache.query_cache true **B: hibernate.cache.use_query_cache true**
C: hibernate.cache.query_cache yes D: none

29. What does session.delete() do?

A: remove from sessionFactory B: remove data from in momery.
C: remove from database. D: All of the above.

30. The hibernate configuration file name is?
A: http.conf B: web.config C: persistence.xml **D: hibernate.cfg.xml**

31. Load child object automatically when parent object is loaded?
A: lazy=yes **B: lazy=false** C: lazy=true D: lazy=no

32. In order to create new session which function should be used ?
A: getSession(true) B: getSession() **C: both A and B** D: getSession(false);

33. Which of the following is true?
A: Hibernate is a framework
B: Hibernate is an Object-Relational mapping (ORM) library for the java language.
C: Hibernate provides mapping for object-oriented domain model to a traditional relational database.
D: **All of the above.**

34. There are core interfaces that are used in just about every hibernate application. Using these interfaces, you can store and retrieve persistent object and control transactions. Select all the interfaces that you see.
A: Configuration interface B: Query and Criteria interfaces C: **All of the above**
D: None of the above

35. Which of the following is not hibernate session method?
A: Save () **B: remove ()** C: persist () D: load ()

36. If the validation fails what will be returned by the validate () method?
A: Success **B: input** C: login D: error

JDBC

1. Which of the following code will you use to get a count of the columns in the result?
A. ResultMetaData rsmd=DatabaseMetaData.getMetaData(); int columns=rsmd.getColumnCount();
B: ResultSetMetaData rsmd=new ResultSetMetaData(result); int columns=rsmd.getColumnCount();
C: **ResultSetMetaData rsmd=result.getMetaData(); int columns=rsmd.getColumnCount();** D: DatabaseMetaData md=result.getMetaData(); int columns=md.getColumnCount**();**

2. The Jdbc driver that directly communicates with database protocol is
A: Type I B: Type II C: Type III **D: Type IV**

3. What will the following line of code do? Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
A: Load the Driver for Database access
B: Establish a connection with the specified database
C: Accesses data from a table
D: Create a ResultSet object

4. Which character is used to represent an input parameter in a PreparedStatement?
A: % B: * C: **?** D: #

5. Which of the following statements is NOT true about a PreparedStatement
A: PreparedStatement is pre-compiled
B: **PreparedStatement may have both IN and OUT parameters.**
C: Execution of PreparedStatement is faster than Statement. D:
All of the above

6. **Which class gives u connection from connection pool?**
A: Driver **B: DataSource** C: DriverManager D: Connection

7. Which driver can be used for internet purpose?
A: Type 1 B: Type 2 **C: Type 3** D: all the above

8. Which class gives connection?
A: Driver B: Statement **C: DriverManager** D:
Connection

9. According to JDBC4, driver class name should be there inside
A: META-INF\java.sql.Driver file
B: Services\java.sql.Driver file
C: Services\META-INF\java.sql.Driver file
D: META-INF\services\java.sql.Driver file

10. If we use query statement inside "execute()" method of Statement, it will return
A: false **B: true** C: 1 D: 0

11. If we use update statement inside "execute()" method of Statement, it will return
A: false B: true C: 1 D: 0

12. When driver is not found, it results in
A: DriverNotFoundException
B: ClassNotfoundException C:
SQLException
D: None of the above.

13. Connection is
A: interface B: class C: package D: None of the above.

14. Name the most suitable execution method in JDBC , for firing DML queries.
A: executeQuery() **B: executeUpdate()** C: executeQueue()
D: xecuteDynamicQuery()

15. in the following code sample
Class.forName("Oracle.jdbc.OracleDriver");

String dbUrl="jdbc:oracle:thin:@host1:mydb";
Connection con=DriverManager.getConnection(dbUrl,"scott","tiger");
How to create PreparedStatement in order to support Scrollable and Read-only ResultSet?
A: con.prepareStatement(sql,TYPE_SCROLL_INSENSITIVE,CONCUR_UPDATABLE);
B: con.prepareStatement(sql,TYPE_FORWARD_ONLY,CONCUR_UPDATABLE);
C: **con.prepareStatement(sql,TYPE_SCROLL_INSENSITIVE,CONCUR_READ_ONLY);** D: con.prepareStatement(sql,TYPE_SCROLLABLE,CONCUR_UPDATABLE);

16. PreparedStatements are actually _____
A: Compiled B: not compiled
C: They don't compile but directly get executed D: none of the above

17. Which driver is efficient and always preferable for jdbc applications?
A: **Type – 4** B: Type –1 C: Type –3 D: Type –2

18. The parameters of PreparedStatement object are _____ when the user clicks on the query button.
A: **Initialized** B: started C: paused D: stopped

19. Name of Type4 driver is
A. **Native-Protocol Driver** B: JDBC-ODBC bridge
C: Network-Protocol Driver D: Native-API Driver

20. By default ResultSet is
A: None of these B: TYPE_SCROLL_INSENSITIVE
C: TYPE_FORWARD_ONLY D: TYPE_SCROLL_SENSITIVE

21. PreCompiled SQL statements are stored in
A: None of these B: CallableStatement
C: Statement D: **PreparedStatement**

22. The checked exception which we need to handle in case of jdbc is
A: None of these B: **SQLException** C: IOException D: JDBCException

23. Type1 driver makes use of
A: None of these B: **Odbc** C: Jdbc D: Middleware

24. If ResultSet is Scrollable we can invoke
A: Absolute B: Next C: Previous **D: all of the above**

25. Stored Procedures can be called using
A: PreparedStatement B: Statement **C: CallableStatement** D: None of these

26. One of the following is a class
A: Connection B: Statement C: ResultSet **D: none of the above**

27. Every driver class has _____ which registers itself with the DriverManager

A: Static method B: **static block** C: constructor D: none of the above

JSF

1. Front Controller in JSF is
A: DispatcherServlet B: ActionServlet **C: FacesServlet** D: none of the above

2. Configuration file in JSF is
A: webconfig.xml B: jsf-config.xml
C: applicationContext.xml **D: none of the above [it is "faces-config.xml"]**

3. Annotation which is used to define bean in JSF is
A: @managedBean B: @Bean C: @Component D: @JSFBean

4. In case of JSF component tree is stored inside
A: ServletContext B: ApplicationContext **C: FacesContext** D: None of the above

JSP

1. Which of the attribute of JSP mentioned below is not available in servlet?
A: request B: session **C: page** D: context

2. A method can be defined inside
A: JSP scriptlet **B: JSP declaration** C: JSP expression D: none of the above

3. One of the following cannot be overridden while writing JSP page
A: _jspService B: jspInit C: JspDestroy D: jspService

4. Which attribute cannot be used inside <jsp:useBean>
A: class B: id **C: name** D: scope

5. If we want to include some dynamic page in JSP we should use
A: <jsp:include page="/somepage"/>
B: <%@ include file="/somefile" %>
C: RequestDispatcher rd=request.getRequestDispatcher("/somepage");
rd.include(request,response); D: none of the above

6. One of the following JSTL tag performs URL rewriting.
A: link **B: url** C: aHref D: import

7. Given
<jsp:useBean id="a1" scope="request" class="mypack.Customer"/> What is the syntax to read Customer object?
A: ${requestScope.a1} B: <%=request.getAttribute("a1")%>
C: ${a1} **D: all the above**

8. Which JSP expression tag will print the context initialization parameter named "uname"?
A: <%= application.getAttribute("uname")%>

B: <%= application.getInitParameter("uname")%>
C: <%= request.getParameter("uname")%> D:
<%=contextParam.get("uname")%>

9. When a JSP page is compiled, what is it turned into?
A: Applet **B: Servlet** C: Application D: Mailet

10. The implicit JSP objects like request, response, and out are only visible in the _jspService() method.
A: True **B:** False

11. To fill up all bean properties with HTML form elements which of the following statements can be used,
A: <jsp:synchronize name="BeanName" />
B: <jsp:setProperty name="BeanName" property="" />
C: <jsp:setProperty name="BeanName" property="*" />
D: <jsp:setProperty name="BeanName" property="All" />

12. Why use RequestDispatcher to forward a request to another resource, instead of using a sendRedirect?
A: Redirects are no longer supported in the current servlet API.
B: Redirects are not a cross-platform portable mechanism C:The RequestDispatcher does not use the reflection API.
D:The RequestDispatcher does not require a round trip to the client, and thus is more efficient and allows the server to maintain request state.

13. The attribute which defines your jsp page as a exception handling page is
A: isExceptionPage B: exceptionPage **C: isErrorPage** D: w. errorPage

14. To use the ServletContext in Jsp the implicit object is
A: Application B: context C: Config D: page

15. Which attribute can be used inside <jsp:setProperty> and <jsp:getProperty>
A: class B: id **C: name** D: scope

16. What is the role of J2EE container in web application?
A: It provide the life-cycle. B: It compiles the JSP. C: Loads the classes of the JSP and servlet. **D: All of the above**

17. How can we enable session tracking for JSP PAGES?
A: Enable cookies in the browser
B: set session attribute value is true in page directive
C: set is Session attribute true in page directive D: Enable session tracking in the browser

18. What is the effect of executing the following JSP statement, assuming a class with name Employee exists in class's package?
<%@ page import = "classes.Employee" %>

<jsp:useBean id="employee" class="classes.Employee" scope="session"/>
<jsp:setPropertv name="employee" property="*"/>
A: The code does not compile as there is no properly attribute of setProperty tag.
B: The code does not compile as property attribute cannot take * as a value.
C: The code sets value of all properties of employee bean to "*".
D: The code sets the values of all properties of employee bean to matching parameters in request object.

19. If a JSP page overrides the jspInit() method using a declaration JSP tag, which phase of the JSP page life-cycle generates the overridden method in the servlet?
A: page translation. B: JSP page compilation.
C: call jspInit() D: call_jspService().

20. <jsp:useBean id="a1" scope="request"class="mypack.Customer"./> What is the syntax to read Customer object?
A: ${requestScope.a1}
B: <%=request.getAttribute("a1")%> C: ${a1}
D: All the above

21. Which method can be overridden while writing JSP page
A: jspInit B: JspDestroy **C: A and B both** D: None of the above

22. The implicit object "out" of Jsp is of type
A: PrintWriter B: InputStream **C: JspWriter** D: JspPrintWriter

23. Two of the following are the attributes of <%taglib%> directive.
A: Name **B: prefix** C: value **D: uri** E: url

24. The attribute which informs container about a particular error jsp page is
A: isExceptionPage B: exceptionPage C: isErrorPage **D: errorPage**

25. Which of the following is true for JavaBean?
A: It cannot be a GUI component.
B: It never implement Serializable interface
C: It has Zero argument constructor
D: It is a distributed component

26. if a jsp page overrides the jspInit method using a declaration JSP tag , which phase of the jsp page lifecycle generates the overridden method in servlet?
A: Page translation B: JSP page compilation C: call jspInit() D: call _jspService()

27. Select the correct statement about following code (Select one)
<%@page language="java"%>
<html><body>
<% response.getOutputStream().print("hello");
out.print("World");

%>
</body></html>
A: It will print "hello World" in the output
B: It will generate compile time errors
C: It will throw runtime exceptions (java.lang.IllegalStateException: getOutputStream() has already been called for this response)
D: It will only print "hello"

28. Which is not a valid scope for javabean in JSP?
A: Page B: session C: request D: **global**

29. Which among the following will compile?
A: <% int x=10 %>
B: <%= "hello how are you" %>
C: <%= "hello" ; %>
D: <%! Int x=10 %>

30. Which of the following statements is true regarding the scope of "request" in JSP?
A: Objects with request scope are accessible from pages processing the same request where they were created.
B: All references to the object shall be released after the request is processed: in particular if the request is forwarded to a resource in the same runtime, the object is still reachable.
C: References to the objects in request scope are stored in a request object. **D: All of the above.**

31. Which of the following statements makes your compiled JSP page implement the SingleThreadModel interface?
A: <%@ page isThreadSafe="false" %>
B: <%@ page isThreadSafe="true" %>

32. How can a servlet call a JSP error page?
A: This capability is not supported
B: When the servlet throws the exception, it will automatically be caught by the calling JSP page. **C: The servlet needs to forward the request to the specific error page URL. The exception is passed along as an attribute named "javax.servlet.jsp.jspException"**
D: The servlet needs to redirect the response to the specific error page, saving the exception off in a cookie.

33. When using a JavaBean to get all the parameters from a form, what must the property be set to (???
in the following code) for automatic initialization?
<jsp:useBean id="fBean" class="govi.FormBean" scope="request"/>
<jsp:setProperty name="fBean" property="???" />
<jsp:forward page="/servlet/JSP2Servlet" />

A: * **B:** All C: @ D: =

34. Choose the statement that best describes the relationship between JSP and servlets:
A: Servlets are built on JSP semantics and all servlets are compiled to JSP pages for runtime usage. b. JSP and servlets are unrelated technologies.
B: Servlets and JSP are competing technologies for handling web requests. Servlets are being superseded by JSP, which is preferred. The two technologies are not useful in combination.
C: JSPs are built on servlet semantics and all JSPs are compiled to servlets for runtime usage.

35. What alternatives exist to embedding Java code directly within the HTML markup of your JSP page?
A: Moving the code into your session manager.
B: **Moving the code into scriptlets**.
C: Moving the code into JavaBeans and servlets D:
Moving the code into a transaction manager

36. What is the initial contact point for handling a web request in a *Page-Centric* architecture?
A: A JSP page B: JavaBean C: servlet. D: session manager

37. Which object would you use to share user specific information between JSPs?
A: Request B: Response C: **Session** **D:** Application

38. Which of the following rules must a reusable JavaBeans™ component adhere to?
A: The Bean class must provide zero argument constructors.
B: The Bean must have a corresponding BeanInfo class.
C: The Bean must only use visible components.
D: The Bean must not be serializable.

39. Which of the following is not a standard method called as part of the JSP life cycle?
A: jspInit() **B: jspService()** C: _jspService() D: jspDestroy()

40. If you want to override a JSP file's initialization method, within what type of tags must you declare the method?
A: <@ @> B: <%@ %> C: <% %> **D: <%! %>**

41. Which of the following cannot be used as the scope when using a JavaBean with JSP?
A: Application B: Session C: Request **D: Response** E: Page

42. What is the key difference between using a <jsp:forward> and HttpServletResponse.sendRedirect()?
A: forward executes on the client while sendRedirect() executes on the server **B: Forward executes on the server while sendRedirect() executes on the client.**
C: The two methods perform identically.

43. Two of the following methods can be overridden in jsp page
A: jspInit B: _jspService C: jspGet D: doPost **E: jspDestroy**

44. One of the following is jsp expression

A: <%! %> B: <% %> C: <%@ %> **D: <%= %>**
45. One of the following is not an implicit jsp object

A: context B: config C: session D: pageContext

46. One of the following is an additional attribute in Jsp as compare to servlet attributes .
A: Request B: context **C: page** D: response E: session

47. Two of the following are used to call bean class setter and getter methods.
A: setAttribute **B: getProperty** C: getAttribute **D: setProperty**

48. One of the following is not a jsp standard action A: forward B: include **C: page** D: param

49. When jsp is generated into servlet it is derived from which class
A: HttpServlet **B: HttpJspBase** C: HttpJspPage D: Servlet

50. Pure java code can be written inside
A: JSP scriptlet B: JSP declaration
C: JSP expression D: none of the above

51. For every tag encounter, a new instance of Tag Class is created.
A: **True** B: False

52. One of the following JSTL tag performs URL rewriting Select one:
A: **url** B: aHref C: import D: link

53. Generated servlet in case of JSP extends _____.
A: None of these B: **HttpJspBase**
C: Service D: HttpServlet

54. Which attribute cannot be used inside <jsp:useBean>
A: scope **B: name** C: id D: class

55. One of the following cannot be overridden while writing JSP page
A: jspService B: JspDestroy C: jspInit **D: _jspService**

56. All EL implicit objects are internally
A: Map B: List C: Set D: none of these

MVC

1. One of the following is responsible for responding to user input and perform interactions on the data model objects.
A: model B: view **C: controller** D: none of them

2. In MVC architecture model is _____
A: jsp **B: javabean** C: servlet

SERVLET

1. Select the correct statement

A: ServletConfig is not available inside constructor
B: servlet gets instantiated every time a new request comes.
C: programmer has to override "service()" method of parent class D: GenericServlet is a concrete class

2. One of the following is not a Parameter

A: init B: request **C: session** D: context

3. In order to retrieve existing session only [not to create new] which function should be used ?

A: getSession(true) B: getSession()
C: getSession(false) D: all of the above

4. Select wrong statement

A: forward is faster than redirect
B: redirect is only within the same context
C: if client does not accept cookies, URLRewriting is the best option you have. D: cookies are internally used inside session mechanism.

5. Cookies are always added to?

A: Request
B: Response
C: Session
D: r.Application

6. Select the wrong statement

A: ServletConfig is not available inside constructor
B: servlet gets instantiated every time a new request comes.
C: programmer need not override "service()" method of parent class, instead he can override required doXXX() methods.
D: GenericServlet is abstract class

7. One of the following is not an attribute

A: init B: request C: session D: context

8. Which of the following variables are thread-safe?

A: session-scoped
B: application-scoped
C: servlet instance
D: request-scoped

9. Technique for maintaining anonymous user transaction on web

A: cookies B: URL Rewriting C: session **D: all of the above**

10. One of the following is not a servlet attribute

A: config B: context C: request D: session

11. what is recommended for servlet Thread safety
A: Your servlet service() method should not access any member variables, unless these member variables are thread safe themselves.
B: Your servlet service() should not reassign member variables, as this may affect other threads executing inside the service() method. If you really, really need to reassign a member variable, make sure this is done inside a synchronized block.
C: Rule 1 and 2 also counts for static variables.
D: Local variables are always thread safe. Keep in mind though, that the object a local variable points to, may not be so. If the object was instantiated inside the method, and never escapes, there will be no problem. On the other hand, a local variable pointing to some shared object, may still cause problems. Just because you assign a shared object to a local reference, does not mean that object automatically becomes thread safe.
The request and response objects are of course thread safe to use. A new instance of these are created for every request into your servlet, and thus for every thread executing in your servlet.

12. Which of the following method is not used to retrieve request parameters?
A: getParameterNames() B:
getParameter()
C: getParameterValue()
D: None of the Above

13. How to package and deploy web application in j2ee?
A: jar
B: ear
C: war
D: rar

14. Depending upon the events on servlet we can specify the following levels_____. A: Request level events
B: ServletContext level events C:
Only A
D: Both A and B

15. An _____ object always represents a client's HTTP request
A: ClientRequest B:
HttpServlet
C: HttpServletRequest
D: javax.servlet..http.HttpSession

16. You want to use URL rewriting to support client browsers, which do not use cookies. Which method will you use to attach the session id to a URL that is to be used for the sendRedirect() method of the HttpServletResponse?
A: encodeURL

B: encodeRedirectURL
C: encodeSessionURL
D: encodeSessionRedirectURL

17. Given that the service() method of a typical servlet is multithreaded, which one of the following issues does NOT need to be addressed in a servlet's implementation?
A: Concurrent access to shared resources
B: Concurrent access to local variables
C: Concurrent access to static variables
D: Concurrent access to instance variables

18. _____ is the object used for reading "init" or "config" parameters.
A: ServletContext **B: ServletConfig** C: RequestDispatcher

19. Request parameters are set
A: in DD B: using setParameter **C: implicitly**

20. In case of redirect request is same. **False**

21. Following methods are the part of servlet lifecycle. [Choose 3 correct answers] A: Start **B: init** C: stop **D: service** **E: destroy**

22. In case of servlet, for each request
A: each thread is created B: each process is created C: none of them

23. Container adds cookies inside
A: Response B: request C: context D: config

24. If the request is get
A: service() calls "doPost()" method **B: service() calls "doGet()"**
C: container directly calls "doGet()" D: doGet() calls "service()"

25. One of the followings is must for a servlet class
A: it must override "service()" method
B: it must have parameterized constructor
C: it must have public no-arg constructor D: it must implement Serializable interface.

26. Redirect can go beyond the context . **True**

27. HttpSession session =request.getSession()
A: Can create a new session only B: can retrieve an existing session only
C: Can either create a new or retrieve an existing session , depends upon session availability.

28. Following interface is used to either forward or include other web resource. A: Servlet **B: RequestDispatcher** C: ServletConfig D: HttpResponse

29. Besides the cookie object which other object is also required to create a cookie on the browser?
A: Request
B: Response
C: Session
D: Application

30. The limitations of Cookies are
A: 20 cookies per site each of max 4Kb
B: 4 cookies per site each of max 20Kb
C: Any no of cookies per site each of max 4Kb
D: No limitation

31. Select correct statement
A: forward is faster than redirect
B: redirect has always a same request.
C: if client does not accept cookies , session mechanism is not possible at all. D: cookies can store java objects.

32. Your web application named bank uses "WelcomeServlet". Where will u store "WelcomeServlet.class"? **A: bank/WEB-INF/classes**
B: bank/WEB-INF/lib/classes
C: root/WEB-INF/lib
D: bank/WebContent/lib/classes

33. What method can be used to retrieve value of the request parameter being sent as a part of the request by client?
A: Use the method "HttpServletRequest.getParameter(string name) which will return String form.
B: Use the method "HttpServletRequest.getParameterValues() which will return array of String values. C: Use the method "HttpServletResponse.getValues()" which will return array of string values.
D: There is no direct support in servlet api.

34. Which of these true about deployment descriptor?
A: The order of elements in deployment descriptor is important. The elements must follow a specific order.
B: The servlet-mapping element if present must be defined within "servlet" element.
C: The elements of deployment descriptor are not case insensitive. D: The web-app element must include the servlet element.

35. If the HTTP error 500 is generated by your servlet, you do not want to show the "Internal Server Error" page to the client. Instead, you want a custom error page to be displayed. What is the best way to accomplish this?
A: Forward the user to the error page using HttpServletResponse.sendRedirect() method.
B: Forward the user to the error page using RequestDispatcher.forward() method.

C: Specify the mapping of the error-code 500 and the error-page in the deployment descriptor. D: It is not possible to accomplish this.

36. Which of the following should not be used to share data between servlets in a distributed web application?

A: Attributes of ServletContext
B: Enterprise JavaBeans
C: Attributes of HttpSession
D: Database

37. You want to use URL Rewriting to support client browsers which do not use cookies. Which method will you use to attach the session id to a url that is to be used for the "sendRedirect()" method of the HttpServletResponse?

A: encodeURL
B: **encodeRedirectURL**
C: encodeSessionURL
D: encodeSessionRedirectURL

38. What is the main difference between servlet and cgi?

A: Servlets are thread based , cgi are process based
B: Servlets execute slower compare to cgi
C: Servlets have no platform specific API, whereas cgi has D:
All of the above

39. A user types the URL http://www.cdac.in which Http request gets generated? **A: GET method B:** POST method C: HEAD method D: PUT method

40. Which object is used to forward the request processing from one servlet to another?

A: ServletContext B: ServletConfig **C: RequestDispatcher** D: ResponseDispatcher

41. The method getWriter() returns an object of type PrintWriter. This class has println() method to generate output. Which of these classes define the getWriter method? Select the one correct answer.

A: HttpServletRequest
B: HttpServletResponse
C: ServletContext
D: ServletConfig

42. Which of the following statements is correct?

A: The response from the dedicated server to a HEAD request consists of status line, content type and the document.
B: The response from the server to a GET request does not contain a document.
C: The setStatus method defined in the HttpServletRequest class takes int as an argument and sets the status of Http response.
D: The HttpServletResponse defines constants like SC_NOT_FOUND that may be used as a parameter to setStatus method.

43. Which of the following method is not used to reterive request parameters

A: getParameterNames() B: getParameter()
C: getParameterValue()
D: None of the Above

44. Redirect cannot go beyond context. **False**

45. Lifecycle methods of filters are [select 3 correct answers] **A: init** B: service **C: destroy** **D: doFilter** E: intercept

46. If the request method is "get", which method is called
A: DoGet B: DoPut C: DoPost D: DoDelete

47. Select the correct statement.
A: Servlet is multithreaded
B: HttpServlet extends GenericServlet
C: CGI creates different process for each request
D: all of the above

48. In order to make Servlet entry inside DD, we need to mention _____.
A: Servlet-Class B: Servlet-name C: URL-pattern **D: All of these**

49. Request and response are created for each thread
A: False B: **True**

50. One of the following is one per servlet
A: Request **B: Config** C: Context D: All of these

51. Life cycle method in case of servlet is
A: Destroy B: Service C: Init **D: all of these**

52. Service method is declared as throws
A: ServletException B: IOException **C: both a and b** D: none of these

53. DD is _____.
A: Config.xml B: None of these C: Webconfig.xml **D: Web.xml**

54. getWriter() method is invoked on _____ .
A: Request B: Config **C: Response** D: context

55. HttpServlet class is abstract class
A: False B: **True**

56. Request Dispatcher reference can be used for forward as well as include
A: False B: **True**

57. One of the following is invoked for every request

A: Constructor **B: Service** C: Destroy D: Init

58. Which one is one per context?

A: ServletContext B: ServletConfig C: Both D: None

59: ServletConfig is available inside constructor
A: **False** B: True

60. Redirect can go outside container _____ .
A: False B: **True**

61. init() calls init(ServletConfig)
A: **False** B: True

62. Which one is one per servlet_____.
A: ServletContext B:**ServletConfig** **C:** Both D: None

63. sendRedirect() method is invoked on _____ .
A: HttpServletResponse B: ServletContext C: ServletConfig D: HttpServletRequest

64. Forward cannot go outside context _____.
A: **False** B: True

65. addCookie() method belongs to _____.
A: config B: context C: request **D: response**

66. getCookies() method belongs to _____.

A: .., m,A.ContexT **B: request** C: response D: config

67. Forward is slow as compare to redirect
A: **False** C: True

68. Init method has argument:
A: InitConfig **B: ServletConfig** C: ServletContext D: None of these

69. In order to read config parameters which method is used _____.
A: getParameter B: **getInitParameter** **C:** getServletParameter D: getConfigParameter

70. If u want to ensure servlet loading even before first request u need to use
A: <start-on-load> B: **<load-on-startup>** **C:** <load-on-start> D: none of these

71. HttpServletRequest and HttpServletResponse are thread-safe
A: False B: **True**

72. HttpSession gets migrated to another JVM if required
A: **True** B: False

73. Cookies can store java objects
A: True B: **False**

74. In order to get existing session only we need to use _____.
A: getSession(true) B: getExistingSession() C: **getSession(false)**

75. What is the difference between doing an *include* or a *forward* with a RequestDispatcher? **A: The forward method transfers control to the designated resource, while the include method invokes the designated resource, substitutes its output dynamically in the display, and returns control to the calling page.**
B: The two methods provide the same functionality, but with different levels of persistence
C: The forward method is deprecated as of JSP 1.1 and the include method should be used in order to substitute portions of a dynamic display at runtime.
D: The include method transfers control to a dynamic resource, while the forward method allows for dynamic substitution of another JPS pages output, returning control to the calling resource.

STRUTS

1. Following is the main controller in struts2 framework
A: StutsPrepreAndExcuteFilter B: ActionServlet C: FilterServlet D: FilterController

2. One of the following is not a result type
A: dispatcher B: chain **C: response** D: redirect

3. Action objects are stored in
A: value stack B: heap C: file D: none of these

4. In action tag, when method is not specified, which method is by default considered?
A: run B: actionexecute **C: execute** D: perform
5. One of the following is the map in OGNL to retrieve any type of attribute
A: request B: application C: page **D: attr**

6. Which is the interface used if you want to access "request" object in your action class?
A: ServletRequest B: HttpServletRequest **C: ServletRequestAware** D: RequestAware

7. Action methods must return
A: String B: int C: Boolean D: it can return any type

8. One of the following is a result type
A: dispatcher B: error C: response D: request

9. struts uses _____ for multiple language support

A: resource **B: resource bundle** C: language bundle D: all of the above

10. EL maps

pageScope	Scoped variables from page scope
requestScope	Scoped variables from request scope
sessionScope	Scoped variables from session scope
applicationScope	Scoped variables from application scope
param	Request parameters as strings
paramValues	Request parameters as collections of strings
header	HTTP request headers as strings
headerValues	HTTP request headers as collections of strings
initParam	Context-initialization parameters
cookie	Cookie values
pageContext	The JSP PageContext object for the current page

11. Controller component in struts 2 is
A: filter B: servlet C: jsp D: None of the above.

12. To read value from the value stack we need to use
A: SQL B: PU/SQL **C: OGNL** D: None of the above.

13. Interceptor does _____&_____processing of request and invokes the action classes. A: pre, post **B: before, after** C: get, post D: None of the above

14. Which interceptor is used for internationalization in struts?
A: struts.custom.i17n.resources B: struts.custom.i18n
C: struts.custom.i18n.resources
D: struts.i18n.custom.resources

15. Default Interceptors of struts 2 are
A: ConversionError, ModelDriven, jsonValidationparams
B: ModelDriven, jsonvalidation, ParameterDriven
C: ConversionError, ParameterDriven, roleDriven
D: ConversionError, roleDriven, jsonValidation, params

16. Struts2 application flow is defined in a configuration file called _____ A: web.xml **B: struts.xml** C: struts-config.xml

17. The controller in struts2 is _____
A: ActionServlet B: HttpServlet **C: FilterDispatcher**

18. OGNL stands for __Object Graph Navigation Language_____

19. _____ is the interceptor stack available by default to every sturts application. A: execAndWait B: validateStack **C: defaultStack**

20. By default result name is _____

A: success B: fail C: retry D: abort

21. In action tag, when method is not specified _____ is the by default method considered. A: run **B: execute** C: actionExecute D: perform

22. We can forward the request from one action class to another. **True**

23. Tiles definitions are mentioned inside _____ file.
A: Struts.xml **B: tiles.xml** C: web.xml D: tiles-def.xml

24. Interceptors are similar to _____ in concept.
A: Filters B: servlets C: jsps D: pojos

25. Action method has to return
A: String B: int C: Boolean D: it can return any type

26. Which method is necessary for Action class?
A: Valuator () B: reset() C: findForward() **D: execute()**

27. What is the return type of validate() method in struts?
A: String B: **void** C: int D: Object

28. Can I add user defined data in valueStack in struts?
A: Depends B: **Yes always** **C:** Not possible D: None of the above

29. _____ is the interface used if you want to access "request" object in your action class.
A: ServletRequest B: HttpServletRequest **C: ServletRequestAware** D: RequestAware

30. If the action name is "AddAction", the validation file name should be _____
A: AddAction-validation.xml **B:** AddAction-validator.xml C: AddAction_validation.xml

SPRING

1. Spring controller can be defined using annotation
A: @Bean B: @Component C: **@Controller** **D:** none of the above

2. Mapping of request in Spring MVC can be defined using annotation
A: @RequestMapping **B:** @Action C: @RequestProcessing D: @Request

3. The advice functionality takes place after the advised method completes, regardless of the outcome: A: after-returning B: **After** **C:** after-throwing D: None of the above

4. In Spring framework by default the scope of bean is

A. Prototype
B. Request
C. Session
D. **Singleton**

5. Which class is used to check spring lifecycle?

A: BeanFactory
B: ClassPathApplicationContext
C: AbstractApplicationContext
D: All of the above

6. Front Controller in Spring MVC is

A: DispatcherServlet B: ActionServlet C: FacesServlet D: none of the above

7. Join points can be method calls, constructor invocations, exception handlers, or other points in the execution of a program.

A: true B: false

8. When a lazy-initialized bean is a dependency of a singleton bean that is not lazy-initialized, the ApplicationContext creates the lazy-initialized bean at startup

A: True B: False

9. Spring DAO framework converts checked exception into unchecked exception. The name of unchecked exception is_____

A: RuntimeException B: SQLException C: **DataAccessException** **D:** none of the above

10. The class which encapsulates traditional jdbc code is

A: DataTemplate B:**JdbcTemplate** **C:** SqlTemplate D: none of the above

11. One of the following helps controller in resolving a particular view component.

A: ModelAndView B: HandlerMapping **C: ViewResolver** D: DispatcherServlet

12. What are the types of Dependency Injection Spring supports? A: Setter injection
B: Constructor injection
C: Both a and b
D: none of the above

13. The process of applying aspects to a target object to create a new proxy object is called as_____

A: Coupling **B: Weaving** C: Injecting D: None of the above

14. Annotation to force dependency injection is____

A: @Injection B: **@Autowired** **C:** @Wired D: None of the above

15. In order to use @Component annotation for a bean u need to add following tag in Spring bean configuration file.

A: <context:component-scan> B: <auto:component-scan>

C: <context:bean-scan> D: None of the above

16. What is the Key strategy of spring framework?

A: Application development in POJO style.

B: Loose coupling through Dl.

C: Declarative programming using AOP **D:**

All of the above.

SWING

1. Select correct statement from the following

A: Invisible components are required in BoxLayout

B: flowlayout is the default layout for JApplet

C: the default lookandfeel for swing components is MotifLookAndFeel. D: swing does not have DelegationEvent model.

2. How will you create Dual Application in Swing? A: extend JFrame, inside main instantiate JApplet

B: extend JApplet, inside main instantiate JFame

C: extend JFrame as well as JApplet

D: none of these

Shriram Mantri VITA

==========
############## ADV_JAVA ##############
==========

1. Which of the following is not true for servlet?

Answers
1. It is persistent
2. Platform independent
3. It is multi threaded
**4. It is single threaded.

==========

2. Which method of the servlet is/are called several times in its life?

Answers
1. init()
**2. doPost()
3. destroy()
4. None of above

==========

3. Which object is used to forward the request processing from one servlet to another?

Answers
1. ServeltContext
2. ServletConfig
**3. RequestDispatcher
4. ResponseDispatcher

==========

4. The method getWriter returns an object of type PrintWriter. This class has println methods to generate output. Which of these classes define the getWriter method?

Answers
1. HttpServletRequest
**2. HttpServletResponse
3. ServletConfig
4. ServletContext

==========

5. In which file database table configuration is stored?

Answers

1. .dbm
**2. .hbm
3. .ora
4. .sql

==========

6. How can we get context init parameter and run some code before rest of the application can service a client?

Answers
1. ServletContextAttributeListener
**2. ServletContextListener
3. HttpSessionListener
4. All of these

==========

7. Suppose you want to know each time request comes in, so that you can log it. Which listener is appropriate for that?

Answers
1. ServletContextAttributeListener
**2. ServletContextListener
3. HttpSessionListener
4. All of these

==========

8. Suppose you want to know each time request comes in, so that you can log it. Which listener is appropriate for that?

Answers
**1. ServletRequestListener
2. ServletRequestAttributeListener
3. ServletContextListener
4. HttpRequestListener

==========

9. In which of these getAttibute() and setAttribute() method has defined?

Answers
1. HttpSession
2. ServletRequest
3. ServletContext
**4. All of these

==========

10. Which of the following are the valid scopes in JSP?

Answers
**1. request, page, context, application
2. response, page, session, application
3. request, page, session, global
4. request, page, session, application

==========

11. Which of the following method can be used to used to instantiate a method?

Answers
**1. static factory method
2. default-init method
3. destroy method
4. lazy-init method

==========

12. What is the default scope of the beans?

Answers
1. Prototype
2. session
3. Request
**4. Singleton

==========

13. Which Standard tag is used store data in the JavaBeans instance?

Answers
1. <jsp:useBean>
2. <jsp:setBean>
3. <jsp:set>
**4. <jsp:setProperty>

==========

14. Which driver converts JDBC calls directly into the vendor-specific database protocol?

Answers
1. Native-API driver
2. Network Protocol driver
**3. Thin driver
4. None of the above

==========

15. Which interface provides methods to execute queries with the database?

Answers
1. Connection interface
**2. Statement interface
3. ResultSet interface
4. None of the above

==========

16. What are the method of Methods of PreparedStatement interface?

Answers
1. public void setInt()
2. public void setDouble()
**3. public ResultSet executeQuery()
4. public void setFloat()

==========

17. Which of the following are tags of hibernate.cfg.xml?

Answers
1. SQL variant to generate
2. DTD
3. JDBC connection
**4. All of the options

==========

18. In the elements of Hibernate architecture is a factory of session and client of ConnectionProvider, It holds the second level cache (optional) of data is _____.

Answers
1. Session
2. ConnectionProvider
3. Transaction
**4. SessionFactory

==========

19. What is dirty checking in Hibernate?

Answers
**1. object state changes in order to synchronize the updated state with the database
2. remove the dirty data from database.
3. check the data when insert into database.
4. None

==========

20. Which of the following element is used to represent one-to-one relationship in hibernate?

Answers
**1. many-to-one
2. many-one
3. ManyToOne
4. None of the above

==========

21. Which ways are used by the Log4j and Logback frameworks in hibernate framework to support logging?

Answers
1. By log4j.xml file
2. By log4j.properties
**3. Both of above
4. None of the above

==========

22. Which of these simplifies an Object Relational Mapping tool?

Answers
1. Data creation
2. Data manipulation
3. Data access
**4. All mentioned above

==========

23. org.hibernate.SessionFactory can manage contextual sessions and allows to retrieve them by:-

Answers
**1. getSession() method
2. getCurrent() method
3. getCurrentSession() method
4. None of the above

==========

24. What is no mode of autowiring?

Answers
1. Autowiring by property name.

2. Similar to byType, but type applies to constructor arguments.
**3. Default setting which means no autowiring and you should use explicit bean reference for wiring.
4. Spring first tries to wire using autowire by constructor, if it does not work,Spring tries to autowire by byType.

==========

25. Which is not DI?

Answers
1. Setter Based DI
2. Auto-wiring DI
**3. Both of the above
4. None of the above.

==========

26. Which of the following is not a state of object in Hibernate?

Answers
**1. Attached
2. Detached
3. Persistent
4. Transient

==========

27. Which is not application context?

Answers
1. ClassPathXmlApplicationContext
2. AnnotationApplicationContext
3. WebApplicationContext
**4. WebPathXmlApplicationContext

==========

28. Which is Stereo Type Annotations?

Answers
1. @Autowired
**2. @Controller
3. @PreDestroy
4. @Qualifier

==========

29. What is Spring MVC framework?

Answers
1. Spring MVC framework is Model-Value-Class architecture and used to bind model data with values.
**2. The Spring web MVC framework provides model-view-controller architecture and ready components that can be used to develop flexible and loosely coupled web applications.
3. Spring MVC framework is used for Transaction management for Web Applications.
4. Spring MVC framework is used for AOP for Web Applications.

==========

30. How to handle shut down of IoC container?

Answers
1. Using shutdownHook()
2. Using shutdownHandler()
3. Using registerHook()
**4. Using registerShutdownHook()

==========

31. What is @Controller annotation?

Answers
**1. The @Controller annotation indicates that a particular class serves the role of a controller.
2. The @Controller annotation indicates how to control the transaction management.
3. The @Controller annotation indicates how to control the dependency injection.
4. The @Controller annotation indicates how to control the aspect programming.

==========

32. Which of the following is correct about messaging in RESTful web services?

Answers
1. A client sends a message in form of a HTTP Request and server responds in form of a HTTP Response.
2. These messages contain message data and metadata i.e. information about message itself.
**3. Both of the above
4. None of the above.

==========

33. Spring provides a factory that can export beans annotated with:-

Answers
1. javax.jws.WebService
2. javax.jws.WebServiceProvider
**3. all of the mentioned

4. none of the mentioned

==========

34. Factory to use our Spring bean as the implementation:-

Answers
1. jaxws:end
**2. jaxws:endpoint
3. all of the mentioned
4. none of the mentioned

==========

35. Isolation Levels Supported by Spring:-

Answers
1. DEFAULT
2. READ COMMITTED
3. READ UNCOMMITTED
**4. All of the mentioned

==========

36. Which of the following method can be used to used to instantiate a method?

Answers
**1. static factory method
2. default-init method
3. destroy method
4. lazy-init method

==========

37. Which method is used to save or update the state of the given instance from the underlying database?

Answers
1. session.update()
2. session.keep()
**3. session.saveOrUpdate()
4. session.Load()

==========

38. What is bean in Spring?

Answers
1. A component
**2. An Object

3. A class
4. A container

==========

39. Spring’s core transaction management abstraction is based on the interface _____

Answers
1. TransactionManager
**2. PlatformTransactionManager
3. PlatformManager
4. PlatformTransaction

==========

40. Element used to specify access attributes for bean’s methods.

Answers
1. security:spring
2. security:intercept-security
3. security:intercept
**4. security:protect

==========
############## End ##############
==========

==========
############## COP & OS ##############
==========
1. Identify the incorrect statement about compilation and execution of java programs

1. javac helps in compiling the java program and creates the .class files
2. java runs the programs using the bytecode in .class files
**3. java runs the programs using the source code in .java files
4. javac is in the JDK package and java is in the JRE packag

==========

2. What command is used to save the standard output in a file, as well as display it on the terminal?

Answers
**1. tee
2. grep
3. cat
4. more

==========

3. Which command is used to change the I/O characteristics of the terminal?

Answers
1. Ctty
2. Ptty
3**. Stty
4. Tty

==========

4. Which Linux command list the content of all sub directory?

Answers
1. ls ~
**2. ls * /
3. ls /
4. ls ../

==========

5. What will be the output of the following Java code?

```
1.    class array_output
2.    {
3.        public static void main(String args[])
4.        {
5.          int array_variable[][] = {{ 1, 2, 3}, { 4 , 5, 6}, { 7, 8, 9}};
```

```
6.            int sum = 0;
7.            for (int i = 0; i < 3; ++i)
8.                for (int j = 0; j <  3 ; ++j)
9.                    sum = sum + array_variable[i][j];
10.            System.out.print(sum / 5);
11.        }
12.    }
```

Answers
1. 8
**2. 9
3. 10
4. 11

==========

6. How many constructors in the String class?

Answers
1. 1
2. 2
**3. 13
4. 11

==========

7. What will be the output of below statements?

```
String s = "Java String Quiz";
System.out.println(s.charAt(s.toUpperCase().length()));
```

1. Convert “Z” to int 90 and prints “90”
**2. Runtime Exception
3. Prints “z”
4. Prints “Z”

8. What will be the output of the following class?

```
class C
 {
 public static void main(String[] args)
 {
 String s1 = "Hello";
 String s2="India";
 String s3=s1+s2;
 String s4=s1.concat(s2);
 System.out.println(s3==s4);
 System.out.println(s3.equals(s4));
}
}
```

Answer
1. true, true
2. true, false
**3. false, true
4. false, false

==========

9. Which component is responsible for optimizing byte-codes?

Answers
1. JVM
2. JDK
**3. JIT
4. JRE

==========

10. Which of these cannot be declared static?

Answers
1. class
**2. object
3. variable
4. method

==========

11. Which of the following statements are incorrect?

Answers
1. static methods can call other static methods only
2. static methods must only access static data
3. static methods can not refer to this or super in any way
**4. when object of class is declared, each object contains its own copy of static variables

==========

12. What will be the output of the following Java program?

```
1.    class access
2.    {
3.        public int x;
4.         static int y;
5.        void cal(int a, int b)
6.        {
7.            x +=  a ;
8.            y +=  b;
9.        }
```

```
10.    }
11.    class static_specifier
12.    {
13.        public static void main(String args[])
14.        {
15.            access obj1 = new access();
16.            access obj2 = new access();
17.            obj1.x = 0;
18.            obj1.y = 0;
19.            obj1.cal(1, 2);
20.            obj2.x = 0;
21.            obj2.cal(2, 3);
22.            System.out.println(obj1.x + " " + obj2.y);
23.        }
24.   }
```

Answers
1. 1 2
2. 2 3
3. 3 2
**4. 1 5

==========

13. When invoking a method with an object argument, _____ is passed.

Answers
1. Athe contents of the object
2. a copy of the object
**3. the reference of the object
4. the object is copied, then the reference of the copied object

==========

14. Choose the correct answer.

Answers
1. Recursion is always better than iteration.
**2. Recursion uses more memory compared to iteration.
3. Recursion uses less memory compared to iteration.
4. Iterative function is always better and simpler to write than recursion.

==========

15. What will be the output of the following program?

```
class RecursiveFor
{
    public static void main(String[] args)
    {
        int out = 15;
```

```
        for (int i = 4; i < 6; i++)
        {
            for (int j = 7; j >= 5; j--)
            {
                if (i == j) continue;
                if (i > j)
                {
                    out += main(i, j);
                }
                else
                {
                    out += main(j, i);
                }
            }
        }
        System.out.println("out = " + out);
    }


    private static int main(int a, int b)
    {
        if (a + b == 0)
        {
            return 2;
        }
        return a + main(a - 1, b);
    }
}
```

Answers
1. out = 78
**2. out = 100
3. out = 80
4. Compilation Error

==========

16. What is the right output of this program ?

```
public class BitwiseNotOperator{
   public static void main(String[] args)
     {

      int i = 50;
      System.out.print(~i);
      System.out.print(",");
      System.out.print(~--i);
      System.out.print(",");
      System.out.print(~++i);
```

```
   }
}
```

Answers
1. -50,-49,-50
2. -51,-51,-52
3. -49,-50,-51
**4. -51,-50,-51

==========

17. The operating system and the other processes are protected from being modified by an already running process because _____

Answers
1. They are in different memory spaces
2. They are in different logical addresses
3. They have a protection algorithm
**4. Every address generated by the CPU is being checked against the relocation and limit registers

==========

18. Where are placed the list of processes that are prepared to be executed and waiting?

Answers
1. Job queue
**2. Ready queue
3. Execution queue
4. Process queue

==========

19. By shell into the parameter, __ reads the first argument

Answers
**1. $1
2. $3
3. $$
4. 1$

==========

20. The program is interrupted by_____ command in appropriate way.

Answers
1. kill

2. SIGKILL
**3. trap
4. INT

==========

21. Which system call can be used by a parent process to determine the termination of child process?

Answers
**1. wait()
2. exit()
3. fork()
4. get()

==========

22. The entry of all the PCBs of the current processes is in _____

Answers
1. Process Register
2. Program Counter
**3. Process Table
4. Process Unit

==========

23. If one thread opens a file with read privileges then:
Answers
1. other threads in the another process can also read from that file
**2. other threads in the same process can also read from that file
3. any other thread can not read from that file
4. all of the mentioned

==========

24. 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?

Answers
1. Efficient implementation of multi-user support is no longer possible
2. The processor cache organization can be made more efficient now
**3. Hardware support for memory management is no longer needed
4. CPU scheduling can be made more efficient now

==========

25. In Process Address Space, The variable names, constants, and instruction labels

are the basic elements of _____.

Answers
**1. Symbolic addresses
2. Relative addresses
3. Physical addresses
4. None of the above

==========

26. In which type of Fragmentation, Memory block assigned to process is bigger. Some portion of memory is left unused, as it cannot be used by another process.

Answers
1. External fragmentation
**2. Internal fragmentation
3. Both of the above
4. None of the above

==========

27. A swapper manipulates _____ whereas the pager is concerned with individual _____ of a process.

Answers
1. the entire process, parts
2. all the pages of a process, segments
**3. the entire process, pages
4. none of the mentioned

==========

28. Segment replacement algorithms are more complex than page replacement algorithms because _____
Answers
1. Segments are better than pages
2. Pages are better than segments
**3. Segments have variable sizes
4. Segments have fixed sizes

==========

29. Command used to check shared memory is

Answers
1. ipcs
**2. ipcs -mS
3. ipcs -s
4. ipcs -q

==========

30. One process requires M resource to complete a job. What should be the minimum number of resources available for N processes so that at least one process can continue to execute without blocking/waiting?

Answers
1. M * N
2. M * N – 1
3. M * N + 1
**4. M

==========

31. Which of the following are the major disadvantages of requesting all resources while preventing deadlock?
i) delay process initiation
ii) future resources requirements must be known
iii) subject to cyclic restart

Answers
**1. i and ii only
2. ii and iii only
3. i and iii only
4. i, ii and iii

==========

32. Which of the following are the thread synchronization primitives supported by Solaris
  i) Mutual exclusion
 ii) Semaphores
iii) Signals
iv) Condition variables

Answers
1. i, ii and iii only
2. ii, iii and iv only
**3. i, ii and iv only
4. All i, ii, iii and iv

==========

33. In which of the following Algorithm where the reference bit is used to determine whether a page has been recently referenced, and some page that has not been recently referenced is replaced?

Answers
1. LRU Page replacement Algorithm
2. FIFO page replacement Algorithm

3. Optimal page replacement algorithm
**4. NRU Page replacement algorithm

==========

34. In which of the following Page replacement Policy, at every page fault the page replacement policy replaces the page that was loaded into memory earlier than any other page of the process?

Answers
1. LRU Page replacement Algorithm
**2. FIFO page replacement Algorithm
3. Optimal page replacement algorithm
4. NRU Page replacement algorithm

==========

35. In UNIX, the set of masked signals can be set or cleared using the _____ function.

Answers
**1. sigprocmask
2. sigmask
3. sigmaskproc
4. sigproc

==========

36. In most cases, if a process is sent a signal while it is executing a system call :

Answers
1. the system call will continue execution and the signal will be ignored completely
2. the system call is interrupted by the signal, and the signal handler comes in
**3. the signal has no effect until the system call completes
4. none of the mentioned

==========

37. Both processes (the parent and the child) continue execution at the instruction after the fork(), with one difference: the return code for the fork() is _____ for the new (child) process, whereas the _____ process identifier of the child is returned to the parent.

Answers
1. Negative integer, Zero
2. Zero, Negative integer
3. Nonzero integer, Zero
**4. Zero, nonzero integer

==========

38. When the operating system has performed a_____ operation, it has two choices for selecting a process either admitting a newly created process or bring in a previously suspended process.

Answers
1. Swapping-in
**2. Swapping-out
3. Blocked-in
4. Blocked-out

==========

39. There are the following statements that are given below, which of them are correct about Regular expressions in the Linux operating system?

A. The regular expressions are strings that are used for pattern matching in some Linux commands.
B. The regular expressions are also known as a regex.
C. The regular expressions use some characters that each has a different meaning.
D. Regular expressions can only be used in the Linux commands.

Answers
1. A and B
2. C and D
**3. A, B, and C
4. A, B, C, and D

==========

40. Which of the following command is used to display only directories that exist in the current directory?

Answers
**1. ls –l | grep "^d"
2. ls | grep "^d"
3. ls –l | grep "#d"
4. ls –l | grep "*d"

==========
############## End ##############
==========

==========
############## DBT ##############
==========

1. Grant and revoke are ..... statements.

Answers
1. DDL
**2. DCL
3. DML
4. TCL

==========

2. Using which language can a user request information from a database?

Answers
1. Relational
2. Structural
3. Compiler
**4. Query

==========

3. Drop Table cannot be used to drop a table referenced by a …… constraint.

Answers
1. Local Key
2. Primary Key
3. Composite Key
**4. Foreign Key

==========

4. _____specifies a search condition for a group or an aggregate.

Answers
1. GROUP BY Clause
**2. HAVING Clause
3. FROM Clause
4. WHERE Clause

==========

5. Which of the following statement is true?

Answers
**1. Unique key contrains allow NULL valuse.
2. Unique key contrains do not allow NULL valuse.
3. Primary key contrains allow NULL valuse.

4. A non-unique index cannot be used to enforce a primary key contraint.

==========

6. which is the component of E-R Model?

Answers
1. Entity
2. Attribut
3. Relationship
**4. All of the above

==========

7. Is a preferred method for enforcing data integrity

Answers
**1. Constraints
2. Stored procedure
3. Triggers
4. Cursors

==========

8. A ..... is used to define overall design of the database

Answers
**1. schema
2. application program
3. DML
4. code

==========

9. SQL Server static cursors are always _____ .

Answers
**1. Read-only
2. Write-only
3. Read,Write
4. None of the mentioned

==========

10. …… is the process of organizing data into related tables.

Answers
**1. Normalization
2. Generalization
3. Specialization

4. None of the above

==========

11. ..... keyword is used to find the number of values in a column.

Answers
1. TOTAL
**2. COUNT
3. ADD
4. SUM

==========

12. Which of the following statement cannot support triggers?

Answers
1. Insert statement
**2. Select statement
3. Update statement
4. Delete statement

==========

13. DBMS helps to achieve _____

Answers
**1. Data independence
2. Centralized control of data
3. Both of above
4. None of above

==========

14. Which of the following are the five built-in functions provided by SQL?

Answers
1. SUM, AVG, MIN, MAX, MULT
**2. COUNT, SUM, AVG, MAX, MIN
3. SUM, AVG, MULT, DIV, MIN
4. SUM, AVG, MIN, MAX, NAME

==========

15. …… is a special type of integrity constraint that relates two relations & maintains consistency across the relations.

Answers
1. Entity Integrity Constraints
**2. Referential Integrity Constraints

3. Domain Integrity Constraints
4. Domain Constraints

==========

16. find all emps whose name contains A twice.

Answers
**1. SELECT * FROM emp WHERE ename LIKE '%A%A%';
2. SELECT * FROM emp WHERE ename LIKE '%AA%';
3. SELECT * FROM emp WHERE ename LIKE '%A%';
4. SELECT * FROM emp WHERE ename LIKE 'A%A';

==========

17. Aggregate functions can be used in the select list or the_____clause of a select statement or subquery. They cannot be used in a _____ clause.

Answers
1. Where, having
**2. Having, where
3. Group by, having
4. Group by, where

==========

18. To create a database only if it doesn’t already exist, which clause is used?

Answers
1. IF EXISTS
**2. IF NOT EXISTS
3. CREATE EXISTS
4. EXISTS IF

==========

19. Which of the following group function ignore NULL values?

Answers
1. COUNT
2. SUM
3. MAX
**4. All of the above

==========

20. What does a fully qualified table name consist of?

Answers
1. only the table name

2. only the database name
3. table name followed by database name
**4. database name followed by table name

==========

21. point out the correct statement.

Answers
1. Stored procedures assist in achieving consistent implementation of logic across application
2. A stored procedure is a group of Transact-SQL statements compiled into a single execuation plan
3. Stored procedure can also improve performance
**4. All the above

==========

22. ____ is used to build the code dyanamically and execute it.

Answers
**1. sp_executesql
2. sp_altermessage
3. sp_addmessage
4. sp_dropmessage

==========

23. The SQL statement that queries or reads data from a table is

Answers
**1. SELECT
2. READ
3. QUERY
4. None of the above

==========

24. A _____ index is created based on only one table column.

Answers
1. Implicit
**2. Single-column
3. Unique
4. Composite

==========

25. What is true about index?

Answers
**1. Indexes are special lookup tables that the database search engine can use to speed up data retrieval.
2. Indexes are special lookup tables that the database search engine can use to speed up data deletion.
3. Indexes can be created or dropped with an effect on the data.
4. An index helps to speed up insert statement.

==========

26. Which operator is used to compare a value to a specified list of values?

Answers
1. ANY
2. BETWEEN
**3. IN
4. ALL

==========

27. A view is actually a?

Answers
1. associated to a table
**2. composition of a table
3. decomposition of a table
4. None of the above

==========

28. What is true about view?

Answers
1. Database views are created using the CREATE VIEW statement.
2. To create a view, a user must have the appropriate system privilege according to the specific implementation.
**3. Both of the above are true
4. All of the above are false

==========

29. In order to undo the work of transaction after last commit which one should be used ?

Answers
1. View
2. Commit
**3. Rollback
4. Flashback

==========

30. A ..... represents the number of entities to which another entity can be associated

Answers
**1. mapping cardinality
2. table
3. schema
4. information

==========

31. Which of the following statement(s) is TRUE regarding subqueries?

Answers
1. Inner queries in WHERE clause must contain ORDER BY
**2. Outer query and inner query can get data from different tables
3. Outer query and inner query must get data from the same table
4. Inner queries cannot contain GROUP BY clause

==========

32. Which of the following statements are TRUE regarding subqueries?

Answers
1. A subquery can retrieve zero or more rows
2. A subquery can appear on either side of a comparison operator
3. There is no limit on the number of subquery levels in the WHERE clause of a SELECT statement
**4. First two statements are true

==========

33. Which join refers to join records from the write table that have no matching key in the left table are include in the result set:

Answers
1. Left outer join
**2. Right outer join
3. Full outer join
4. Half outer join

==========

34. A _____ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique

Answers
1. Fields

2. Rows
3. Attribute
**4. Key

==========

35. Which of the following statements is NOT true for views in SQL?

Answers
1. Select statement used in the view definition cannot include ORDER BY clause.
2. A view drives its data from the base tables(s)
3. A view is updatable if it has been defined from a single relation
**4. A view contains a copy of the data

==========

36. Which of the following ways below are the correct way to get the current date?

Answers
1. SELECT CURTIME();
2. SLELCT CURRRENT_TIME()
**3. SELECT CURDATE();
4. All of the above

==========

37. Purpose of DDL Trigger is to :

Answers
1. Perform administrative tasks
2. Audit
3. Regulating database operations.
**4. All of the mentioned

==========

38. Which of the following are the properties of entities?

Answers
1. Groups
2. Table
**3. Attributes
4. Switchboards

==========

39. …… is a full form of SQL.

Answers
1. Standard query language

2. Sequential query language
**3. Structured query language
4. Server side query language

==========

40. Which of the following statement is correct regarding the difference between TRUNCATE, DELETE and DROP command?

I. DELETE operation can be rolled back but TRUNCATE and DROP operations cannot be rolled back.

II. TRUNCATE and DROP operations can be rolled back but DELETE operations cannot be rolled back.

III. DELETE is an example of DML, but TRUNCATE and DROP are examples of DDL.

IV. All are an example of DDL.

Answers
**1. I and III
2. II and III
3. II and IV
4. I and IV

==========
############## End ##############
==========

==========
############## DS ##############
==========

1. Which of the following sorting algorithms in its typical implementation gives best performance when applied on an array which is sorted or almost sorted (maximum 1 or two elements are misplaced).

Answers
1. A. Quick Sort
2. B. Heap Sort
3. C. Merge Sort
**4. D. Insertion sort

==========

2. What is the best time complexity of bubble sort?

Answers
1. A.O(n)^2
2. B. O(n) log n
**3. C. O(n)
4. D. O(n) (Log n)^2

==========

3. Consider a situation where swap operation is very costly. Which of the following sorting algorithms should be preferred so that the number of swap operations are minimized in general?

Answers
1. A. Heap Sort
**2. B. Selection sort
3. C. Insertion sort
4. D. Merge sort

==========

4. Which of the following algorithm design technique is used in Quick sort?

Answers
1. A. Greedy method
2. B. Backtracking
3. C. Dynamic programming
**4. D. Divide and Conquer

==========

5. Selection sort algorithm design technique is an example of

Answers
**1. A. Greedy Method
2. B. Divide and Conquer
3. C. Dynamic programming
4. D. Backtracking

==========

6. The result of evaluating postfix expression 539*74-/+62*- is

Answers
1. A. 16
**2. B. 2
3. C. -7
4. D. 3

==========

7. What would be the time complexity of push and pop operation if, the stack implementated using linked list?

Answers
1. A. O(1) for insertion O(n) for deletion
**2. B. O(1) for insertion O(1) for deletion
3. C. O(n) for insertion O(1) for deletion
4. D. O(n) for insertion O(n) for deletion

==========

8. If one dimentional array A[MAXSIZE] is used to implement two stacks provided two stacks grow from opposite ends of the array. Variables top1 and top2 (top1 < top 2) point to the location of the topmost element in each of the stacks, then which of the followings stetements must be true?

I. If the space is to be used efficiently, the condition for stack full is top1= top2 -1
II. The condition for stack full is top1 + top2 = MAXSIZE

Answers
**1. A. Only I is true
2. B. Only II is true
3. C. Both I and II are true
4. D. Both I and II are false

==========

9. The _____ data structure is used to check whether an arithmetic expression has balanced parenthesis or not

Answers

1. A. Queue
2. B. List
3. C. Tree
**4. D. Stack

==========

10. Which of the following is the disadvantage of the array?

Answers
1. A. If user wishes to store multiple values of similar type then the Array can be used and utilized efficiently.
2. B. In arrays, the elements can be accessed randomly by using the index number.
**3. C. Insertion and deletion are quite difficult in an array as the elements are stored in consecutive memory locations and the shifting operation is costly.
4. D. Arrays allocate memory in contiguous memory locations for all its elements.

==========

11. Which one of the following is an application of Queue Data Structure?

Answers
1. A. Spooling in printers
2. B. Queues in routers/ switches
3. C. Evaluation of Arithmetic Expressions
4. D. All of the above
**5. E. Both A and B

==========

12. Which of the following is true about linked list implementation of queue?

Answers
1. A. In push operation, if new nodes are inserted at the beginning of linked list, then in pop operation, nodes must be removed from end.
2. B. In push operation, if new nodes are inserted at the end of linked list, then in pop operation, nodes must be removed from beginning.
3. C. Queue data structure can be used to implement least recently used (LRU) page fault algorithm and Quick short algorithm.
**4. D. All of the above

==========

13. Consider the following pseudo code. Assume that IntQueue is an integer queue. What does the function fun do?

```
void fun(int n)
{
    IntQueue q = new IntQueue();
    q.enqueue(0);
    q.enqueue(1);
```

```
    for (int i = 0; i < n; i++)
    {
        int a = q.dequeue();
        int b = q.dequeue();
        q.enqueue(b);
        q.enqueue(a + b);
        print(a);
    }
}
```

Answers
1. A. Prints numbers from 0 to n-1
2. B. Prints numbers from n-1 to 0
**3. C. Prints first n Fibonacci numbers
4. D. Prints first n Fibonacci numbers in reverse order.

==========

14. .....is an abstract data type that generalizes a queue, for which elements can be added to or removed from either the front or rear end

Answers
1. A. Double ended queue
2. B. Deck
3. C. Deque
4. D. only A is correct
**5. E. Both A and C are correct

==========

15. What will be queue full condition for circular queue if implemented using static array, provided rear and front are initially -1?

Answers
1. A. rear==SIZE
2. B. rear==SIZE-1
**3. C. (rear+1)%size==front
4. D. None of the above

==========

16. Which of the following statement is true about the complete binary tree?

I. In complete binary tree, every level must be filled from left to right direction
II. Every full binary tree can be considered as a complete binary tree but reverse is not true

Answers
1. A. Only I is true

2. B. Only II is true
**3. C. Both I and II are True
4. D. None of the above

==========

17. Which one of the following is an application of Graph Data Structure?

Answers
1. A. Elctronic circuit simulation
2. B. Path Optimization Algorithms.
3. C. Scientific Computations
**4. D. All of the above

==========

18. In binary tree if non-leaf node has non-empty left sub-tree and non-empty right sub-tree then such binary tree is called as .....

Answers
**1. A. Strictly binary tree
2. B. Complete binary tree
3. C. Full binary tree
4. D. Skewed binary tree

==========

19. Suppose the numbers 80 110 120 60 40 70 90 100 85 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?

Answers
1. A. 80 60 40 70 110 90 85 100 120
**2. B. 40 60 70 80 85 90 100 110 120
3. C. 40 70 60 85 100 90 120 110 80
4. D. 40 60 70 85 90 100 110 120 80

==========

20. Given an undirected graph G with 5 vertices and 7 edges, the sum of the degrees of all vertices is:

Answers
1. A. 7
2. B. 5
3. C. 10
**4. D. 14

==========

21. what would be the number of zeros in the adjacency matrix of given graph?

Answers
**1. A. 10
2. B. 6
3. C. 16
4. D. 0

==========

22. How many undirected graphs (not necessarily connected) can be constructed out of a given set V = {v1, v2, ... vn} of n vertices?

Answers
1. A. n(n-1)/2
2. B. 2^n
3. C. n!
**4. D. 2^n(n-1)/2

==========

23. Which of the following statement is correct about flow chart and a pseudocode?

Answers
1. A. A flowchart is a diagram while the pseudo code is written in any programming language
2. B. A flowchart is textual but the pseudocode is a diagram
**3. C. A flowchart is a schematic description of an algorithm, while pseudo-code is a textual description of an algorithm, while pseudo-
4. D. A flowchart and a pseudo-code are the same

==========

24. Which of the following is advantage of linked-list over array?

Answers
**1. A. Inserting a new element in an linked-list of elements is easy as compared to array.
2. B. The size of linked-list is fixed
3. C. Extra memory space for a pointer is required with each element of the list
4. D. Random access is not allowed.

==========

25. Which of the following statement(s) is TRUE?
    I. A hash function takes a message of arbitrary length and generates a fixed length code.
    II. A hash function takes a message of fixed length and generates a code of variable length.

III. A hash function may give the same hash value for distinct messages.

Answers
1. A. Only I
2. B. Both II and III
**3. C. Both I and III
4. D. Only II

==========

26. Which of the following statement(s) is/are correct regarding Bellman-Ford shortest path algorithm?
I. Always finds a negative weighted cycle, if one exists.
II. Finds whether any negative weighted cycle is reachable from the source.

Answers
1. A. Only I
2. B. Both I and II
**3. C. Only II
4. D. None of the above

==========

27. Merge Sort works on two principles

Answers
1. A. To sort smaller size array and to merge two already sorted array operations are not efficient.
**2. B. To sort smaller size array and to merge two already sorted array operations are efficient.
3. C. To sort smaller size array is efficient and to merge two already sorted array is not efficient.
4. D. To sort smaller size array is not efficient and to merge two already sorted array is efficient.

==========

28. How many pointers need to modify to insert any element at the front of the singly linear linked-list.

Answers
1. A. 1
**2. B. 2
3. C. 3
4. D. 4

==========

29. Dijkstra’s Algorithm cannot be applied on .....

Answers
1. A. Directed and weighted graphs
**2. B. Graphs having negative weight function
3. C. Unweighted graphs
4. D. Undirected and unweighted graphs

==========

30. What is the worst case time complexity of traversal of doubly linked list ?

Answers
1. A. O(1)
2. B. O(logn)
**3. C. O(n)
4. D. O(nlogn)

==========

31. In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is

Answers
1. A.log(n)
**2. B. n
3. C. n/2
4. D. None of the above

==========

32. Which of the following is/are advantages of cicular linked list?

Answers
1. A. We can traverse the whole list by starting from any point. We just need to stop when the first visited node is visited again.
2. B. Circular Doubly Linked Lists are used for implementation of advanced data structures like Fibonacci Heap.
**3. C. Only A
4. D. Both A and B

==========

33. The time required to search an element in a linked list of length n is

Answers
1. A. O(log n)
**2. B. O(n)
3. C. O(1)
4. D. O(n^2)

==========

34. Is it possible to add node before specified node in a singly linked list?

Answers
1. A. Not possible
2. B. yes, possible but need to traverse the corresponding list twice.
**3. C. yes, possible by adding node after specified position and then by swapping the position.
4. D. Both B and C

==========

35. Which of the following is suitable data structure to implement priority queue?

Answers
1. A. Graph
2. B. Heap data structure
3. C. Linked List
**4. D. Both B and C
5. E. Only C

==========

36. Which of the following implementation is correct to count the total number of nodes in singly circular linked-list?

Answers
**1. A. int count_node { int count= 0; node_t *trav = head; do { ++count; trav = trav->next; }while(trav != head); return count; }
2. B. int count_node { int count= 0; node_t *trav = head; while(trav != NULL) { ++count; trav = trav->next; } return count; }
3. C. int count_node { int count= 0; node_t *trav = head; while(trav != head) { ++count; trav = trav->next; } return count; }
4. D. int count_node { int count= 0; node_t *trav = head; do { ++count; trav = trav->next; }while(trav != NULL); return count; }

==========

37. Which of the following are application of linked list?

Answers
1. A. It is used in the navigational systems where front and back navigation is required
2. B. To implement stacks and queues
3. C. To implement Hash tables
**4. D. All of the above
5. E. Only A

==========

38. Which of the following asymptotic notation is used represent lower bound?

Answers
1. A. Big-Oh (O) Notation
**2. B. Big-Omega (Ω) notation
3. C. Big-Theta(Θ) notation
4. D. None of the above

==========

39. Prim's algorithm is a.....

Answers
1. A. Divide and conquer algorithm
**2. B. Greedy algorithm
3. C. Dynamic programming
4. D. Approximation algorithm

==========

40. Consider the following AVL tree.

```
       60
     /    \
   20      100
           /  \
         80    120
```

Which of the following operation need to do after insertion of 70?

Answers
**1. A. Rotate right and rotate left
2. B. Rotate left and rotate right
3. C. Need to Rotate left twice
4. D. Need to Rotate right twice

==========
############## End ##############
==========
==========

==========
############## .NET ##############
==========
1. Which of the following are valid .NET CLR JIT performance counters?
 1.Total memory used for JIT compilation
 2.Average memory used for JIT compilation
 3.Number of methods that failed to compile with the standard JIT
 4.Percentage of processor time spent performing JIT compilation
 5.Percentage of memory currently dedicated for JIT compilation

Answers
1. A. 1, 5
**2. B. 3, 4
3. C. 1, 2
4. D. 4, 5

==========

2. Which of the following .NET components can be used to remove unused references from the managed heap?

Answers
1. Common Language Infrastructure
2. CLR
**3. Garbage Collector
4. Class Loader
5. CTS

==========

3. There are the following Jobs given below, which of them are done by Common Language Runtime?
 1. CLR provides garbage collection.

 2. CLR enforces type safety strictly.

 3. CLR provides memory and thread management.

 4. CLR provides Code Access Security.

Answers
1. A. A, B
2. B. C, D
**3. C. All (A, B, C, D)
4. D. None of these

==========

4. There are the following assemblies given below, which of them can be stored in GAC (Global Assembly Cache)?

Answers
1. A. Public Assembly
2. B. Private Assembly
3. C. Protected Assembly
**4. D. Shared Assembly
5. E. Friend Assembly

==========

5. Which of the following statements is correct about Managed Code?

Answers
1. A. Managed code is the code that is compiled by the JIT compilers
2. B. Managed code is the code where resources are Garbage Collected.
3. C. Managed code is the code that runs on top of Windows.
**4. D. Managed code is the code that is written to target the services of the CLR.

==========

6. Which of the following statements is correct?

Answers
**1. A constructor can be used to set default values and limit instantiation.
2. Destructors are used with classes as well as structures.
3. A class can have more than one destructor.
4. All of the above.

==========

7. How many times can a constructor be called during lifetime of the object?

Answers
1. As many times as we call it.
**2. Only once.
3. Depends upon a Project Setting made in Visual Studio.NET.
4. Any number of times before the object gets garbage collected.

==========

8. The variables in _____access means they are accessible only from within their declaration context, including any nested procedures.

Answers
1. A. Protected
2. B. Friend
3. C. Protected Friend
**4. D. Private

==========

9. Boxing converts a value type on the stack to an _____ on the heap.

Answers
1. A. Bool type
2. B. Instance type
3. C. Class type
**4. D. Object type

==========

10. C# has _____ operator, useful for making two way decisions.

Answers
1. A. Looping
2. B. Functional
3. C. Exponential
**4. D. Conditional

==========

11. We use _____ to fully abstract a class from its implimentation.

Answers
**1. A. Interfaces
2. B. Objects
3. C. Packages
4. D. Function Definitions

==========

12. What is the full form of LINQ?

Answers
1. A. Local Integration Query
**2. B. Language Integrated Query
3. C. Language Included Query
4. D. None of the above

==========

13. The default scope for the members of an interface is _____.

Answers
1. A. private
**2. B. public
3. C. protected
4. D. internal

==========

14. Which among the given classes is present in System.Collection.Generic namespace?

Answers
**1. A. Stack
2. B. Tree
3. C. Sorted Array
4. D. All of the mentioned

==========

15. .....represents the ordered collection of an object that can be indexed individually.

Answers
**1. A. ArrayList
2. B. BitArray
3. C. Stack
4. D. SortedList

==========

16. The … method removes the element with the specified key from the Hashtable.

Answers
1. A. public virtual void Remove();
**2. B. public virtual void Remove(object key);
3. C. public virtual void Clear(object key);
4. D. public virtual void Delete(object key);

==========

17. To generate a simple notification for an object in runtime, the programming construct to be used for implementing this idea?

Answers
1. A. namespace
2. B .interface
**3. C. delegate
4. D. attribute

==========

18. What is the value returned by function compareTo( ) if the invoking string is less than the string compared?

Answers
1. A. Zero
**2. B. A value of less than zero

3. C. A value greater than zero
4. D. None of the mentioned

==========

19. Choose the incorrect statement about delegates?

Answers
**1. A. delegates are not type safe
2. B. delegates can be used to implement callback notification
3. C. delegate is a user defined type
4. D. delegates permits execution of a method in an asynchronous manner

==========

20. Which of the following is NOT an Arithmetic operator in C#.NET?

Answers
**1. A. **
2. B. /
3. C. +
4. D. %

==========

21. The exception classes in C# are mainly directly or indirectly derived from the ___?

Answers
**1. A. System.Exception class
2. B. Exception class
3. C. System.ApplicationException class
4. D. ApplicationException class

==========

22. Which of the following should never be thrown from code?

Answers
1. A. Predefined Exception
**2. B. ApplicationException
3. C. Custom Exception
4. D. All of the above

==========

23. Assume 2 columns named as Product and Category how can be both sorted out based on first by category and then by product name?

Answers

1. A. var sortedProds = _db.Products.Orderby(c => c.Category)
2. B. var sortedProds = _db.Products.Orderby(c => c.Category) + ThenBy(n => n.Name)
**3. C. var sortedProds = _db.Products.Orderby(c => c.Category) . ThenBy(n => n.Name)
4. D. all of the mentioned

==========

24. Choose the wrong statement about the LINQ?

Answers
1. A. The main concept behind the linq is query
2. B. linq makes use of foreach loop to execute the query
**3. C. It is not required that linq should make use of IEnumerable interface
4. D. None of the mentioned

==========

25. Which feature enables to obtain information about the use and capabilities of types at runtime?

Answers
1. A. Runtime type ID
**2. B. Reflection
3. C. Attributes
4. D. None of the mentioned

==========

26. What does the following property signify?
MemberTypes MemberType

Answers
1. A. Helps in distinguishing kinds of members
2. B. Property helps in determining if member is a field, method, property or event
**3. C. Both a & b
4. D. None of the mentioned

==========

27. What are the classes used in System.Threading Namespace ?

Answers
1. A. Thread
2. B. Thread Pool
3. C. Monitor
**4. D. All Of The Above

==========

28. What are the methods used in thread class?

Answers
1. A. Join
2. B. Resume
3. C. sleep
4. D. SpinWait
**5. E. ALL OF THE ABOVE

==========

29. Which Namespaces are required to Data Annotation using MVC?

Answers
1. A. System.ComponentModel.DataAnnotations
2. B. System.ComponentModel
**3. C. Both A and B
4. D. None of these

==========

30. Choose the return types of a controller action method?

Answers
1. A. ViewResult
2. B. JavaScriptResult
3. C. RedirectResult
**4. D. All of the above

==========

31. Can we do validation in MVC using data annotations?

Answers
**1. A. Yes
2. B. No

==========

32. What is true about viewbag in mvc?

Answers
1. A. It is used to transfer temporary data from the controller to the view.
2. B. ViewBag only transfers data from controller to view
3. C. ViewBag values will be null if redirection occurs.
**4. D. All of the above

==========

33. What is RouteConfig.cs in ASP.Net MVC?

Answers
**1. A. RouteConfig.cs is used to register MVC config statements, route config.
2. B. RouteConfig.css is used to register global MVC bundles.
3. C. None
4. D. ALL OF THE ABOVE

==========

34. What is FilterConfig.cs in ASP.Net MVC ?

Answers
**1. A. FilterConfig.cs is used to register global MVC filters, HandleErrorAttribute is registered by default filter. We can also register other filters.
2. B. FilterConfig.cs is used to register global MVC bundles.
3. C. None
4. D. All

==========

35. Which attribute is used to define a service class in WCF?

Answers
1. A. Service
2. B. WCFService
**3. C. ServiceContract
4. D. None of the above

==========

36. WCF is a part of .Net Framework

Answers
1. A. 1.0
2. B. 2.0
3. C. 2.5
**4. D. 3.0 and above

==========

37. WCF protocol used to support platform independent communication

Answers
1. A. REST
2. B. HTTP
**3. C. SOAP
4. D. None of the Above

==========

38. Entity Framework is an open-source Object-Relational Mapper (ORM)

Answers
**1. A. TRUE
2. B. FALSE

==========

39. Which object contains the Position property of the current record in a dataset?

Answers
**1. A. BindingContext
2. B. BindingData
3. C. DataBinding
4. D. DataBound

==========

40. What are the Command Object Methods?

Answers
1. A. ExecuteNonQuery
2. B. ExecuteReader
3. C. ExecuteScalar
**4. D. All of the above.

==========
############## End ##############
==========

==========
############## OOPS ##############
==========

1. Which of these can not be used for a variable name in Java?
Answers
1. identifier
**2. keyword
3. identifier & keyword
4. none of the mentioned

==========

2. Which of the following best defines a class?
Answers
1. Parent of an object
2. Instance of an object
**3. Blueprint of an object
4. Scope of an object

==========

3. Which component is used to compile, debug and execute the java programs?
Answers
1. JRE
2. JIT
**3. JDK
4. JVM

==========

4. predict the output of following java program?

```
class Test
{
     int i;
}
class Main{
    public static void main(String[] args)
    { Test t;
       System.out.println(t.i);
   }
}
```

Answers
1. 0
2. garbage value
**3. compiler error
4. runtime error

==========

5. When Overloading does not occur?

Answers
1. More than one method with same name but different number or type of parameters
2. More than one method with same name but different number of parameter
3. More than one method with same name, same number of parameters but different type of parameters
**4. More than one method with same name, same number of parameters and same type of parameters but return type is different

==========

6. Which concept of Java is achieved by combining methods and attribute into a class?

Answers
**1. Encapsulation
2. Inheritance
3. Polymorphism
4. Abstraction

==========

7. What will be the output of the following program?

```
class Base {
    final public void show() {
       System.out.println("Base::show() called");
    }
}

class Derived extends Base {
    public void show() {
       System.out.println("Derived::show() called");
    }
}

class Main {
    public static void main(String[] args) {
        Base b = new Derived();
        b.show();
    }
}
```

Answers
1. Base::show() called
2. Derived::show() called
**3. Compiler error
4. Runtime error

==========

8. Which of this keyword can be used in a subclass to call the constructor of superclass?

Answers
**1. super
2. this
3. extent
4. extends

==========

9. Which of these class is superclass of every class in Java?

Answers
1. String class
**2. Object class
3. Abstract class
4. ArrayList class

==========

10. What is upcasting?

Answers
**1. Casting subtype to supertype
2. Casting super type to subtype
3. Casting subtype to super type and vice versa
4. Casting anytype to any other type

==========

11. What will be the output of the following Java code?

```
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);
     }
 }
```

Answers
1. 38 43
**2. 39 44

3. 295 300
4. 295.04 300

==========

12. Which of these is a wrapper for data type int?

Answers
**1. Integer
2. Long
3. Byte
4. Double

==========

13. Which method can be defined only once in a program?

Answers
**1. main method
2. finalize method
3. static method
4. private method

==========

14. Which of these class represents mutable character sequence?

Answers
1. String
2. StringBuffer
3. StringBuilder
**4. Both StringBuffer and StringBuilder

==========

15. Which of these method of class String is used to compare two String objects for their equality?

Answers
**1. equals()
2. Equals()
3. isequal()
4. Isequal()

==========

16. Which of these process occur automatically by the java runtime system?

Answers
**1. Serialization

2. Garbage collection
3. File Filtering
4. All of the mentioned

==========

17. Which of the following class we can used to read the data in the form of character from text file?

Answers
1. FileWriter
**2. FileReader
3. FileInputStream
4. FileOutputStream

==========

18. What will be the output of the following Java code?

```
  enum Season
    {
        WINTER, SPRING, SUMMER, FALL
    };
    System.out.println(Season.WINTER.ordinal());
```

Answers
**1. 0
2. 1
3. 2
4. 3

==========

19. Which of the following are disadvantages of generics?

Answers
1. Cannot Instantiate Generic Types with Primitive Types
2. Cannot Create Instances of Type Parameters
3. Cannot Overload a Method Where the Formal Parameter Types of Each Overload Erase to the Same Raw Type
**4. All of the above

==========

20. What is the return type of lambda expression?

Answers
1. String
2. Object
3. void
**4. Function

==========

21. While iteration is on and some other thread tries to modify the collection then iterator throws following exception?

Answers
**1. ConcurrentModificationException
2. CollectionModificationException
3. RandomAccessException
4. None of the above

==========

22. Which of these methods can be used to obtain a array from an ArrayList object?

Answers
1. Array()
2. convertArray()
**3. toArray()
4. covertoArray()

==========

23. The accuracy and efficiency of a HashMap can be guaranteed with

Answers
1. override equals method
2. override hashCode method
**3. Both of the above
4. None of the above

==========

24. How to get UTC time?

Answers
1. Time.getUTC();
2. Date.getUTC();
**3. Instant.now();
4. TimeZone.getUTC();

==========

25. What will be the output of following programs?

```
class Base extends Exception {}
class Derived extends Base  {}

public class Main {
  public static void main(String args[]) {
```

```
   // some other stuff
   try {
       // Some monitored code
       throw new Derived();
    }
    catch(Base b)     {
       System.out.println("Caught base class exception");
    }
    catch(Derived d)  {
       System.out.println("Caught derived class exception");
    }
  }
}
```

Answers
1. Caught base class exception
2. Caught derived class exception
**3. Compiler Error because base class exception is caught before derived class
4. Compiler Error because derived is not throwable

==========

26. What is invalid about java.lang.Error in java?

Answers
1. Errors are abnormal conditions in application
2. Error indicates some serious problems that our application should not try to catch
**3. Error is unchecked Exception
4. Error is a subclass of Throwable

==========

27. Which statement is true?

Answers
**1. catch(X x) can catch subclasses of X where X is a subclass of Exception
2. Any statement that can throw an Exception must be enclosed in a try block
3. The Error class is a RuntimeException
4. Any statement that can throw an Error must be enclosed in a try block

==========

28. Which of these is an interface for control over serialization and deserialization?

Answers
1. Serializable
**2. Externalizable
3. FileFilter

4. ObjectInput

==========

29. Which of these is valid about threads in java?

Answers
1. Thread consumes cpu in best possible manner
2. Threads enables multi-processing
3. Threads can execute any part of process. And same part of process can be executed by multiple Threads.
**4. All

==========

30. How can we create Thread?

Answers
1. By Extending Thread class
2. Implementing Runnable interface
3. By using Executor framework - which can internally form threads
**4. All of the above

==========

31. The synchronized keyword is applicable for whom?

Answers
1. Variables and Methods
2. Methods and Classes
3. Variables and Classes
**4. Methods and Blocks

==========

32. What are green threads in java?

Answers
1. Green threads are user-level threads
2. Green threads are high level threads
3. Green threads are OS level threads
**4. None

==========

33. What are the two types of Streams proposed by Java 8?

Answers
1. Random and synchronized
2. Parallel and random

3. Sequential and random
**4. Sequential and parallel

==========

34. Which of these variables is a static variable defined in Collections?

Answers
1. EMPTY_LIST
2. EMPTY_SET
3. EMPTY_MAP
**4. All the answers are true

==========

35. When does Exceptions in Java arises in code sequence?

Answers
**1. Run Time
2. Can Occur Any Time
3. Compilation Time
4. None of the mentioned

==========

36. What is -Xms and -Xmx while starting jvm?

Answers
**1. Initial memory; Maximum memory
2. Initial memory
3. Maximum memory
4. Maximum; Initial memory

==========

37. What allows the programmer to destroy an object x?

Answers
1. x.delete()
2. x.finalize()
3. Runtime.getRuntime().gc()
**4. Only the garbage collection system can destroy an object

==========

38. Which of these class relies upon its subclasses for complete implementation of its methods?

Answers
1. Object class

**2. abstract class
3. ArrayList class
4. None of the mentioned

==========

39. Which of the following is an incorrect statement about Interface?

Answers
1. Interfaces specifies what class must do but not how it does
2. Interfaces are specified public if they are to be accessed by any code in the program
3. All variables in interface are implicitly final and static
**4. All variables are abstract and methods are static if interface is defined public

==========

40. What happens when we access the same variable defined in two interfaces implemented by the same class?

Answers
1. Compilation failure
2. Runtime Exception
3. The JVM is not able to identify the correct variable
**4. The interfaceName.variableName needs to be defined

==========
**********End**********
==========

==========
############## SDM ##############
==========

1. SDLC model selection is based on

Answers
1. Project type and associated risk
2. Development team & Users
3. Requirements
**4. All of the mentioned

==========

2. Which of the following is correct about Agile Disadvantage?

Answers
1. Not suitable for handling complex dependencies.
2. More risk of sustainability, maintainability and extensibility
**3. Both A and B
4. None of the above

==========

3. Git is the same as GitHub.

Answers
1. True
**2. False

==========

4. _____ DevOps software that combines the ability to develop, secure, and operate software in a single application.

Answers
**1. GitLab
2. SVN
3. Microsoft VSS
4. SourceGear Vault PRO

==========

5. Which one of these statements is true?

Answers
1. git pull does not modify the local branch tip.
**2. git fetch does not update the local branch tip.
3. git fetch may result in a merge conflict.
4. Behavior of git fetch and git pull are same

==========

6. Which of the Git repository having hosting functions?

Answers
1. Gitlab
2. Bitbucket
3. SourceForge
**4. All of the above

==========

7. Git is capable of automatically merging the changes even if the commits are on same lines in perticualar file under same branch

Answers
1. True
**2. False

==========

8. RAD stands for

Answers
**1. Rapid Application Development
2. Required Application Development
3. Rapid Application Developers
4. Rapid Application Disposition

==========

9. Waterfall model is not suitable for:

Answers
1. Small projects
2. Complex projects
**3. Accommodating changes
4. Maintenance Projects

==========

10. What is the major drawback of using RAD Model?

Answers
1. Highly specialized & skilled developers/designers are required
2. Increases reusability of components
3. Encourages customer/client feedback
**4. Increases reusability of components, Highly specialized & skilled

developers/designers are required

==========

11. We classify different objects of the program with the same properties into a class using ___.

Answers
**1. Categorization
2. Instantiation
3. Decomposition
4. Generalization

==========

12. Which of the following isn't a goal of NewOps?

Answers
1. Serving as an interface between cloud providers and customers.
2. Integrating different operations teams like storage, network, server etc. by removing silos and be aligned with business
**3. By automating operations, remove the need for human competencies.
4. None of these

==========

13. Which of the following model is a software enterprise development phrase used to signify a kind of Agile relationship among development and IT operations.

Answers
1. Waterfall
**2. DevOps
3. Agile
4. Incremental

==========

14. What is an Ansible?

Answers
1. Ansible is a Continuous Integration tool
2. Ansible is a Continuous Monitoring tool
**3. Ansible is a Configuration Management and Deployment tools
4. Ansible is a Deployment tools

==========

15. What is the need for DevOps?

Answers

1. Increase deployment frequency
2. Lower failure rate of new releases
**3. Both A and B
4. None of the above

==========

16. Which of the following software is perfect for software teams in need of advanced agile functionality and structured workflow?

Answers
**1. JIRA
2. Visual Studio
3. Eclipse
4. Trello

==========

17. Which of the cloud service models available is used as the foundation upon which operating systems and software are hosted?

Answers
1. SaaS
2. IaaS
**3. PaaS
4. CaaS

==========

18. A _____ is a combination of virtual resources that simulates the underlying hardware.

Answers
1. Host machine
2. Host operating system
**3. Virtual Machine
4. Guest operating system

==========

19. Cloud Service consists are:

Answers
1. Platform, Hardware, Infrastructure
**2. Platform, Software, Infrastructure
3. Software, Infrastructure, Hardware
4. Software, Hardware, Infrastructure

==========

20. Which is not a characteristic of Cloud Computing?

Answers
1. Rapid elasticity
2. Resource pooling
3. On-demand self-service
**4. Private hardware centers

==========

21. An Enterprise application runs on Amazon EC2 instances in multiple Availability Zones behind an Application Load Balancer. If one of these instances fails, what occurs?

Answers
1. The load balancer will automatically replace the failed instance.
**2. The load balancer will stop sending requests to the failed instance.
3. The load balancer will terminate the failed instance.
4. The load balancer will return 504 Gateway Timeout errors until the instance is replaced.

==========

22. Which of the following command used to find the current logging driver for a running container in Docker?

Answers
1. docker stats
2. docker info
3. docker config
**4. docker inspect

==========

23. Is this a type of Linux kernel namespace that provides container isolation?

Answers
1. Yes
**2. No

==========

24. _____ is a human-friendly data serialization language for all programming languages.

Answers
1. XAML
2. XML
**3. YAML
4. JSON

==========

25. A host machine has four CPUs available and two running containers. The sysadmin would like to assign two CPUs to each container. Which of the following commands achieves this?

Answers
1. Set the '--cpuset-cpu's flag to '1.3' on one container and '2.4' on the other container.
2. Set the '--cpuset-cpus' flag of the 'dockerd' process to the value 'even-spread'
3. Set the '--cpu-quota' flag to '1.3' on one container and '2,4' on the other container.
**4. Set the '--cpuset-cpus' flag to '.5' on both containers

==========

26. A user is having problems running Docker. Which of the following will start Docker in debug mode?

Answers
**1. Set the debug key to true in the 'daemon.json' file.
2. Start the 'dockerd' process manually with the '--logging' flag set to debug
3. Set the logging key to debug in the 'daemon.json' file.
4. Start the 'dockerd' process manually with the '--raw-logs' flag set to debug

==========

27. _____ character used for comments in YAML

Answers
1. //
2. ' (single quote mark)
**3. #
4. --

==========

28. _____ allows one to attach to a container without exiting the container.

Answers
**1. nsenter
2. docker run
3. cmder
4. none of the above

==========

29. dcker run command will download the image (if it is not already present), and run the OS as a container.

Answers
**1. TRUE
2. FALSE

==========

30. _____ is helpful when multiple teams are using the same cluster and there is a potential of name collision. It can be as a virtual wall between multiple clusters.

Answers
1. Kubernetes-Pod
2. Kubernetes-Service
3. Kubernetes-Node
**4. Kubernetes-Namespace

==========

31. Microservices require a lot of monitoring to operate effectively

Answers
**1. True
2. False

==========

32. What is true about distributed tracing used in microservices?

Answers
1. It ensure that failed microservices are resurrected properly
2. It transfer log management between a given host on demand
**3. It observe the behavior of distinct system calls between and within microservices
4. It change the behavior of a microservice at runtime

==========

33. What is a microservice?

Answers
1. A design used primarily in functional programming and object-oriented programming
**2. A style of design for enterprise systems based on a loosely coupled component architecture
3. A small program that represents discrete logic that executes within a well-defined boundary on dedicated hardware
4. A very small piece of code that never gets any bigger than 10 lines

==========

34. Which plugin is used to run the selenium test cases in Jenkins?

Answers
**1. Hudson
2. JUnit
3. Rational Tools
4. NUnit

==========

35. Load testing is carried out to check whether the system can handle the pressure or load of many users is an example of _____

Answers
1. Functional
**2. Non-functional testing
3. Unit Testing
4. All of the above

==========

36. _____ is now one of the most widely used software development processes.

Answers
**1. V Model
2. Waterfall STLC model
3. Both A and B
4. None of the above

==========

37. When to Use The V Model?

Answers
1. If the requirement is well defined and not ambiguous
2. If acceptance criteria are well defined.
3. If technology and tools used are not dynamic.
**4. All of the above

==========

38. Which of the following approach towards testing includes trial techniques and error guessing method because tester does not need knowledge of internal coding of the software?

Answers
1. White Box Testing
2. Grey Box Testing
**3. Black Box Testing

4. Red Box Testing

==========

39. In Jenkins, a _____ is a collection of events or jobs which are interlinked with one another in a sequence.

Answers
**1. pipeline
2. configuration
3. user
4. None of the above

==========

40. Find the correct sequence used in Jenkins for a continuous delivery pipeline.

Answers
1. build, deploy, release and test
**2. build, deploy, test and release
3. build, test, deploy and release
4. test, build, deploy and release

==========
############## End ##############
==========

==========
############## WPT ##############
==========
1. In HTML tables we can use _____ properties for adding styles

Answers
1. php
2. jQuery
**3. css
4. java

==========

2. Element is design to wrap a single piece of information

Answers
1. <nav>
**2. <time>
3. <footer>
4. <header>

==========

3. In HTML5, it is possible to validate entered data by setting the _____ attribute for a form control.

Answers
1. allow
2. validate
3. restrict
**4. required

==========

4. An internal style sheet should be used when a single document has a

Answers
**1. Unique style
2. Common style
3. Both of the above
4. None of the above

==========

5. In JavaScript which of the following is not a data type

Answers
1. Boolean
2. Number
3. Undefined

**4. Float

==========

6. IN JS, a function name becomes optional when _____

Answers
1. The function is predefined
2. The function is defined as a looping statement
**3. The function is defined as expressions
4. All of the above

==========

7. Find correct output of below snippet

```
Int x=8;
if(x>9)  {
        document.write(9);
}  else  {
        document.write(x);
}
```

Answers
**1. 8
2. 9
3. 0
4. Undefined

==========

8. Which is the correct value calling a JavaScript code?

Answers
1. RMI
2. Triggering Event
**3. Function/Method
4. Preprocessor

==========

9. In the HTML DOM (Document Object Model), everything is a ____

Answers
1. Element
2. Atribute
3. Arrays
**4. Node

==========

10. When an event occurs when the user clicks on an element is

Answers
1. onchange
**2. onclick
3. onblur
4. onkeyup

==========

11. _____ is an inbuilt method in jQuery used to hide the selected element.

Answers
1. hidden()
**2. hide()
3. hiden()
4. display(none)

==========

12. Which method is used to make an asynchronous HTTP request?

Answers
1. jQuery.ajaxAsync()
2. jQuery.async()
**3. jQuery.ajax()
4. None of the above

==========

13. Which of the following is not the Fed method in jQuery

Answers
1. fadeTo()
2. fedIn()
3. fadeOut()
**4. fadeOn()

==========

14. To write "hello world" what is the correct JavaScript syntax

Answers
**1. document.write("hello world")
2. response.write("hello world")
3. ("hello world")
4. None of the above

==========

15. AJAX and jQuery

Answers
1. With jQuery AJAX, you can request TXT, HTML, XML or JSON data from a remote server using both HTTP Get and HTTP Post
2. jQuery provides a rich set of methods (functions) for AJAX web development
3. AJAX and jQuery are cross-platform (you can develop in Windows and serve on a Unix platform)
**4. First two statements

==========

16. Which is the function that calls another function after a time interval

Answers
**1. setTimeout()
2. setTime()
3. timeSet()
4. callAfter()

==========

17. In the below notation, the employee is of type {"Employee": ["Amy", "Bob", "John"]}

Answers
1. Not a valid Json string
**2. Array
3. Class
4. Object

==========

18. What are the characteristics of Ajax?

Answers
1. Declarative instantiation of client components
2. Live data binding
3. Client-side template rendering
**4. All of the above

==========

19. In modern websites what is the common usage for JSON ?

Answers
1. To store information remotely
**2. To send and receive bits of data
3. To store information locally
4. None of the above

==========

20. Which of the following is false about AJAX?

Answers
**1. AJAX IS Asystematic Javascript and XML
2. Update a web page without reloading the page
3. Request and Recieve data from a server - after the page has loaded
4. Send data to a server - in the background

==========

21. AJAX allows a web page to dynamically

Answers
1. Control other pages
**2. Change content
3. Reload at times
4. Connect to other addresses

==========

22. Which of the following command will show the version of Node?

Answers
1. $ npm --version
2. $ npm getVersion
**3. $ node --version
4. $ node getVersion

==========

23. Which statement executes the code sample.js file

Answers
1. Nodejs sample.js
**2. Node sample.js
3. sample.js
4. None of the above

==========

24. To install node.js express module

Answers
**1. $ npm install express
2. $ node install express
3. $ install express
4. None of the above

==========

25. Which of the following is true about RESTful web services?

Answers
1. Web services based on REST architecture are known as RESTful web services
2. Web services uses HTTP methods to implement the concept of REST architecture
**3. Both of the above
4. None of the above

==========

26. Which of the following tool automates various tasks of Node.js application?

Answers
1. Express.js
**2. GruntJS
3. NPM
4. None of the above

==========

27. Which of the following types of applications can be built using Node.js?

Answers
1. Web Application
2. Chat Application
3. RESTful Service
**4. All of the above

==========

28. Something that happened in our application that we can respond to.

Answers
**1. events
2. actions
3. procedures
4. callback

==========

29. What is Callback in NodeJS?

Answers
**1. The callback is an asynchronous equivalent for a function.
2. The callback is a technique in which a method calls back the caller method.
3. Both of the above
4. None of the above

==========

30. In NodeJS what is REPL?

Answers
1. Print
2. Loop
3. Eval
**4. All of the above

==========
31. What is the full form of NPM?

Answers
1. Node Project Manager
**2. Node Package Manager
3. New Project Manager
4. Nodes Packages Manager

==========

32. What is the default scope in the Node.js application?

Answers
1. Global
2. Global Function
**3. Local
4. Local to object

==========

33. Third-party packages can be install/update/delete using _____

Answers
**1. Node Package Manager
2. Node.exe
3. module.exports
4. REPL

==========

34. What is the purpose of the Node object property ownerDocument?

Answers
1. Returns the immediate node
2. Returns the parent node
**3. Returns the root element
4. Returns the last element

==========

35. Which statement is valid in using a Node module fs in a Node-based application?

Answers
1. import fs
2. package fs
3. var fs = require("fs")
**4. var fs = import("fs")

==========

36. What is the children prompt?

Answers
1. A property that adds children components to state
**2. A property that lets you pass components as data to other components
3. A property that lets you set an array as a property
4. A property that lets you pass data to child elements

==========

37. Consider the following code from React Route, What do you call:id in the path prop?
<Route path="/:id" />

Answers
1. This is a route modal
**2. This is a route parameter
3. This is a route splitter
4. This is a route link

==========

38. What is sent to an Array.map() function?

Answers
1. What string describing what the function should do
2. The name of another array to iterate over
3. The number of times you want to called a function
**4. A callback function that is called once for each element in the array

==========

39. Why might you use useReducer over useState in React component?

Answers
**1. When you need to manage more complex state in an app
2. When you want to replace redux
3. When you want to improve performance

4. When you want to break your production app

==========

40. What do you call a React component that catches JavaScript errors anywhere in the child component tree?

Answers
1. error bosses
2. error catchers
3. error helpers
**4. error boundaries

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############## End ##############
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