MCA LET

1. Which bitwise operator is suitable for checking whether a particular bit is on or off?

   (A) && operator
   (B) & operator
   (C) || operator
   (D) ! operator

2. Which of the following cannot be checked in a switch-case statement?

   (A) Character
   (B) Integer
   (C) Float
   (D) Enum

3. Which is the correct sequence statement that swaps values of two statements?

   (A) a=a+b; a=a-b; b=a-b;
   (B) a=a+b, b=a-b; a=a-b;
   (C) a=a-b; a=a+b, b=b-a;
   (D) None of the above

4. The operator > and < are meaningful when used with pointers, if

   (A) The pointers point to data of similar type
   (B) The pointers point to structure of similar data type
   (C) The pointers point to element of the same array
   (D) None of the above

5. It is necessary to declare the type of a function in the calling program if the function

   (A) Returns an integer
   (B) Returns a non-integer value
   (C) Is not defined in the same file
   (D) None of the above

6. Consider the following recursive function fun(x, y). What is the value of fun(4, 3)?

```
int fun(int x, int y)
{
if (x == 0)
return y;
return fun(x - 1,  x + y);
}
```

(A) 13
(B) 12
(C) 9
(D) 10

7. Standard ANSI C recognizes _____ number of keywords

(A) 30
(B) 32
(C) 34
(D) 36

8. The correct value returned to the OS on successful completion of a 'C' program is

(A) 1
(B) -1
(C) 0
(D) null character

9. What is the output of this C code?

```
#include <stdio.h>
void main()
{
     int b = 5 - 4 + 2 * 5;
      printf("%d", b);
}
```

(A) 25
(B) -5
(C) 11
(D) None of the above

10. What is the output of this C code?

```
#include <stdio.h>
void main()
{
      int b = 5 & 4 & 6;
      printf("%d", b);
}
```

(A) 5
(B) 6
(C) 3
(D) 4

11. What is the output of this C code?

```
#include <stdio.h>
void main()
{
      int b = 5 & 4 | 6;
      printf("%d", b);
}
```

(A) 6
(B) 4
(C) 1
(D) 0

12. What is the output of this C code?

```
#include <stdio.h>
int main()
{
      int i = 0;
      for (i++; i == 1; i = 2)
      printf("In for loop ");
      printf("After loop\n");
}
```

(A) In for loop after loop
(B) After loop
(C) Compile time error
(D) Undefined behavior

13. What is the output of this C code?

```
#include <stdio.h>
```

```
void main()
{
char *str = "";
do
{
      printf("hello");
} while (str);
}
```

(A) Nothing
(B) Run time error
(C) Varies
(D) Hello is printed infinite times

14. What is the output of this C code?

```
#include <stdio.h>
void main()
{
int i = 0;
if (i == 0)
      {
            printf("Hello");
            continue;
      }
}
```

(A) Hello is printed infinite times
(B) Hello
(C) Varies
(D) Compile time error

15. What is the output of this C code?

```
#include <stdio.h>
void foo();
int main()
{
      void foo(int);
      foo(1);
      return 0;
}
void foo(int i)
{
      printf("2 ");
}
```

(A) 2
(B) Compile time error
(C) Depends on the compiler
(D) 1 2

16. Comment on the output of this C code?

```
#include <stdio.h>
int main()
{
      int i;
      for (i = 0;i < 5; i++)
      int a = i;
      printf("%d", a);
}
```

(A) *a* is out of scope when printf is called
(B) Redeclaration of *a* in same scope throws error
(C) Syntax error in declaration of *a*
(D) No errors, program will show the output 5

17. What is the output of this C code?

```
#include <stdio.h>
int main()
{
    int i = 97, *p = &i;
    foo(&i);
    printf("%d ", *p);
}

void foo(int *p)
{
    int j = 2;
    p = &j;
    printf("%d ", *p);
}
```

(A) 2 97
(B) 2 2
(C) Compile time error
(D) Segmentation fault/code crash

18. A constructor function is generally defined

(A) In the private section of a class
(B) In the public section of a class
(C) In the protected section of a class
(D) None of the above

19. Which classes allow primitive types to be accessed as objects?

(A) Storage
(B) Virtual
(C) Friend
(D) Wrapper

20. How can we make a class abstract?

(A) By making all member functions constant.
(B) By making at least one member function as pure virtual function.
(C) By declaring it abstract using the static keyword.
(D) By declaring it abstract using the virtual keyword.

21. In case of inheritance where both base and derived class are having constructors, when an object of derived class is created then

(A) constructor of derived class will be invoked first

(B) constructor of base class will be invoked first
(C) constructor of derived class will be executed first followed by base class
(D) constructor of base class will be executed first followed by derived class

22. ……. can be invoked like a normal function without the help of any object.

(A) Constant member function
(B) Private member function
(C) Static member function
(D) Friend function

23. How can we restrict a function to throw certain exceptions?

(A) Defining multiple try and catch block inside a function
(B) Defining generic function within try block
(C) Defining function with throw clause
(D) It is not possible in CPP to restrict a function

24. Which of the following is/are the header files listed in C++ standard library.
i) <ctype.h> ii) <float.h> iii) <date.h> iv) <limits.h>

(A) i, ii and iii only
(B) i, ii and iv only
(C) ii, iii and iv only
(D) i, ii, iii and iv

25. A member function can always access the data in _____ (in C ++)

(A) The class of which it is member
(B) The object of which it is a member
(C) The public part of its class
(D) The private part of its class

26. What is the difference between struct and class in C++?

(A) All members of a structure are public and structures don't have constructors and destructors
(B) Members of a class are private by default and members of struct are public by default. When deriving a struct from a class/struct, default access-specifier for a base class/struct is public and when deriving a class, default access specifier is private
(C) All members of a structure are public and structures don't have virtual functions
(D) All of the above

27. Which of the following, in C++, is inherited in a derived class from base class?

(A) constructor
(B) destructor
(C) data members
(D) virtual methods

28. Which of the following is not a member of class?

(A) Static function
(B) Friend function
(C) Const function
(D) Virtual function

29. When one object reference variable is assigned to another object reference variable then

(A) a copy of the object is created.
(B) a copy of the reference is created.
(C) a copy of the reference is not created.
(D) it is illegal to assign one object reference variable to another object reference variable.

30. When a method in a subclass has the same name and type signatures as a method in the superclass, then the method in the subclass _____ the method in the superclass.

(A) Overloads
(B) Friendships
(C) Inherits
(D) Overrides

31. Which of the following cannot be passed to a function in C++ ?

(A) Constant
(B) Structure
(C) Array
(D) Header file

32. Which of the following is not correct (in C++) ?

1. Class templates and function templates are instantiated in the same way
2. Class templates differ from function templates in the way they are initiated
3. Class template is initiated by defining an object using the template argument
4. Class templates are generally used for storage classes

(A) (1)
(B) (2), (4)
(C) (2), (3), (4)
(D) (4)

33. Assume that an integer and a pointer each takes 4 bytes. Also, assume that there is no alignment in objects. Predict the output of following program.

```
#include<iostream>
using namespace std;
class Test
{
    static int x;
    int *ptr;
    int y;
};

int main()
{
    Test t;
    cout << sizeof(t) << " ";
    cout << sizeof(Test *);
}
```

(A) 12 4
(B) 12 12
(C) 8 4
(D) 8 8

34. Predict the output of following C++ program

```
#include<iostream>
using namespace std;
class Empty {};
int main()
{
      cout << sizeof(Empty);
      return 0;
}
```

(A) A non-zero value
(B) 0
(C) Compiler Error
(D) Runtime Error

35. _____ is a set of an attribute which can uniquely identify a tuple and _____ is the column of the table which is used to point to the primary key of another table.

(A) Super key, Foreign key
(B) Foreign key, Super key
(C) Primary key, Candidate key
(D) Candidate key, Primary key

36. The notation for reflexive rule is

(A) If X → Y, then XZ → YZ
(B) If X → Y and Y → Z, then X → Z
(C) If X → Y and YZ → W, then XZ → W
(D) If X ⊇ Y, then X → Y

37. When a hash function generates an address at which data is already stored, then the next bucket will be allocated to it. This mechanism is called as

(A) Overflow chaining
(B) Linear Probing
(C) Bucket overflow
(D) None of the above

38. GRANT and REVOKE is

(A) Data Control Language
(B) Data Definition Language
(C) Data Manipulation Language
(D) Transaction Control Language

39. _____ is also known as Project-join normal form.

(A) 3NF
(B) 2NF
(C) Boyce codd normal form
(D) 5NF

40. The ____ in a table is the column that makes each record different from all others

(A) Unique field
(B) Primary key
(C) Sort key
(D) Candidate key

41. Which is not a SQL comparison operator?

(A) <>
(B) <=
(C) !>
(D) %

42. Given the relations *"employee (name, salary, deptno) and department (deptno, deptname, address)"* which of the following queries cannot be expressed using the basic relational algebra operations (U, ×, −, σ, p)?

(A) Department address of every employee
(B) Employees whose name is the same as their department name
(C) The sum of all employees' salaries
(D) All employees of a given department

43. Given relations r(w, x) and s(y, z), the result of *"select distinct w, x from r, s"* is guaranteed to be same as *r*, provided

(A) *r* has no duplicates and *s* is non-empty
(B) *r* and *s* have no duplicates
(C) *s* has no duplicates and *r* is non-empty
(D) *r* and *s* have the same number of tuples

44. In SQL, relations can contain null values, and comparisons with null values are treated as unknown. Suppose all comparisons with a null value are treated as false. Which of the following pairs is not equivalent?

(A) x = 5, not (not (x = 5)
(B) x = 5, x > 4 and x < 6, where x is an integer
(C) x < 5, not(x = 5)
(D) None of the above

45. Consider a schema R(A, B, C, D) and functional dependencies A -> B and C -> D. Then the decomposition of R into R1 (A, B) and R2(C, D) is

(A) dependency preserving and loss less join
(B) loss less join but not dependency preserving
(C) dependency preserving, but not loss less join
(D) not dependency preserving and not loss less join

46. Consider attributes ID, CITY and NAME. Which one of this can be considered as a super key?

(A) NAME
(B) ID
(C) CITY
(D) CITY_ID

47. A _____ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.

(A) Rows
(B) Keys
(C) Attributes
(D) Fields

48. Which one of the following is a procedural language?

(A) Domain relational calculus
(B) Tuple relational calculus
(C) Relational algebra
(D) Query language

49. The_____ operation allows the combining of two relations by merging pairs of tuples, one from each relation, into a single tuple.

(A) Select
(B) Join
(C) Union
(D) Intersection

50. A _____ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys.

(A) Schema diagram
(B) Relational algebra
(C) Database diagram
(D) Schema flow

51. 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

52. The Time Complexity of best case in Merge sort is

(A) O
(B) O(n)
(C) O(log n)
(D) O(n log n)

53. In Bubble sort, each element of the array is compared with its

(A) Root element
(B) Adjacent element
(C) Minimum element
(D) Maximum element

54. Bucket sort is also known as

(A) Bin sort
(B) Tim sort
(C) Merge sort
(D) Quick sort

55. The average number of key comparisons done in a successful sequential search in a list of length 'n' , it is

(A) log n
(B) (n-1)/2
(C) n/2
(D) (n+1)/2

56. Which among the following scheduling algorithms gives minimum average waiting time?

(A) FCFS
(B) SJF
(C) Round robin
(D) On priority

57. What is the time complexity of Huffman Coding?

(A) O(N)
(B) O(Nlog N)
(C) O(N(logN)^2)
(D) O(N^2)

58. 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?

(A) Heap Sort
(B) Selection Sort
(C) Insertion Sort
(D) Merge Sort

59. You have to sort 1 GB of data with only 100 MB of available main memory. Which sorting technique will be most appropriate?

(A) Heap sort
(B) Merge sort
(C) Quick Sort
(D) Insertion sort

60. Traversal of a graph is different from tree because

(A) There can be a loop in graph so we must maintain a visited flag for every vertex
(B) DFS of a graph uses stack, but inorder traversal of a tree is recursive
(C) BFS of a graph uses queue, but a time efficient BFS of a tree is recursive
(D) All of the above

61. Which of the following data structure is useful in traversing a given graph by breadth first search?

(A) Stack
(B) List
(C) Queue
(D) None of the above

62. Which of the following is not a backtracking algorithm?

(A) Knight tour problem
(B) N queen problem
(C) Tower of Hanoi
(D) M coloring problem

63. What is the value of the postfix expression?
abc d + - * (where a = 8 , b = 4 , c = 2 and d = 5)

(A) -3/8
(B) -8/3
(C) 24
(D) -24

64. What is recurrence for worst case of QuickSort and what is the time complexity in Worst case?

(A) Recurrence is T(n) = T(n-2) + O(n) and time complexity is O(n^2)
(B) Recurrence is T(n) = T(n-1) + O(n) and time complexity is O(n^2)
(C) Recurrence is T(n) = 2T(n/2) + O(n) and time complexity is O(nLogn)
(D) Recurrence is T(n) = T(n/10) + T(9n/10) + O(n) and time complexity is O(nLogn)

65. What is time complexity of fun()?

```
int fun(int n)

{
      int count = 0;
      for (int i = n; i > 0; i /= 2)
      for (int j = 0; j < i; j++)
      count += 1;
      return count;
}
```

(A) O(n^2)
(B) O(nLogn)
(C) O(n)
(D) O(nLognLogn)

66. What is the time complexity of tfun()?

```
int tfun(int n)

{
      int count = 0;
      for (int i = 0; i < n; i++)
      for (int j = i; j > 0; j--)
      count = count + 1;
      return count;
}
```

(A) Theta (n)
(B) Theta (n^2)
(C) Theta (n*Logn)
(D) Theta (nLognLogn)

67 What is the worst case time complexity of insertion sort where position of the data to be inserted is calculated using binary search?

(A) N
(B) NlogN
(C) N^2
(D) N(logN)^2

68. The Postfix form of the following expression: (A + B) * (C - D) is

(A) AB+CD-*
(B) A+B*C-D
(C) +AB*-CD
(D) A+BC-D*

69. _____ is a composite data type that defines a grouped list of variables that are to be placed under one name in a block of memory.

(A) Pointer
(B) Array
(C) Structure
(D) None of the above

70. The number of elements that can be present in a 2D array will always be equal to

(A) number of rows
(B) number of columns
(C) (number of rows / number of columns)
(D) (number of rows * number of columns)

71. _____ is a complex type of linked list in which a node contains a pointer to the previous as well as the next node in the sequence.

(A) Linked list
(B) Doubly linked list
(C) Circular singly linked list
(D) Circular doubly linked list

72. _____ is used to adding an element onto the stack and _____ is used to removing an element from the stack.

(A) Push, pop
(B) Pop, push
(C) Peek, pop
(D) Pop, peek

73. A queue can be defined as an ordered list which enables insert operations to be performed at one end called _____ and delete operations to be performed at another end called _____.

(A) FIFO, LIFO
(B) LIFO, FIFO
(C) FRONT, REAR
(D) REAR, FRONT

74. _____ traverse the left sub-tree and then traverse the right sub-tree and root respectively.

(A) Pre-order traversal
(B) In-order traversal
(C) Post-order traversal
(D) None of the above

75. _____ can be defined as a sub-graph of connected, undirected graph G that is a tree produced by removing the desired number of edges from a graph.

(A) Binary tree
(B) Binary search tree
(C) Spanning tree
(D) B+ tree

76. What is the time complexity of the below function?

```
void fun(int n, int arr[])

{
      int i = 0, j = 0;
      for(; i < n; ++i)
      while(j < n && arr[i] < arr[j]);
      j++;
}
```

(A) O(n)
(B) O(n^2)
(C) O(nlogn)
(D) O(n(logn)^2)

77. What does the following function do for a given Linked List with first node as head?

```
void fun1(struct node* head)
{
  if(head == NULL)
    return;

  fun1(head->next);
  printf("%d ", head->data);
}
```

(A) Prints all nodes of linked lists
(B) Prints all nodes of linked list in reverse order
(C) Prints alternate nodes of linked list
(D) Prints alternate nodes in reverse order

78. Which of the following points is/are true about Linked List data structure when it is compared with array?

(A) It is easy to insert and delete elements in linked list
(B) Random access is not allowed in a typical implementation of linked lists
(C) The size of array has to be pre-decided, linked lists can change their size any time
(D) All of the above

79. Which of the following sorting algorithms can be used to sort a random linked list with minimum time complexity?

(A) Insertion Sort
(B) Quick Sort
(C) Heap Sort
(D) Merge Sort

80. Which one of the following is an application of Stack Data Structure?

(A) Managing function calls
(B) The stock span problem
(C) Arithmetic expression evaluation
(D) All of the above

81. How many stacks are needed to implement a queue? Consider the situation where no other data structure like arrays, linked list is available to you.

(A) 1
(B) 2
(C) 3
(D) 4

82. Which of the following is true about Binary Trees?

(A) Every binary tree is either complete or full.
(B) Every complete binary tree is also a full binary tree.
(C) Every full binary tree is also a complete binary tree.
(D) None of the above

83. 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

84. To avoid the race condition, the number of processes that may be simultaneously inside the critical section is

(A) 12
(B) 3
(C) 1
(D) 0

85. What must reside in the main memory under all situations in a resident - OS computer?

(A) Linker
(B) Loader
(C) Assembler
(D) Compiler

86. Four Jobs to be executed on a single processor system arrive at time 0 in the order A, B, C, D. Their burst CPU time requirements are 4,1,8,1 time units, respectively. The completion time of A under round robin scheduling with time slice of one time unit is

(A) 10
(B) 4
(C) 8
(D) 9

87. 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

88. What should be the size of ROM if it is used to store the table for multiplication of two 8 - bit unsigned integers?

(A) 64k×8
(B) 64k × 24

(C) 4k×8
(D) 64k ×16

89. What is page cannibalizing?

(A) Page swapping or Page replacements
(B) Adding timestamps to the page
(C) Avoiding page replacements
(D) All of the above

90. Thrashing occurs when

(A) A page fault occurs
(B) Processes on system frequently access pages not memory
(C) Processes on system are in running state
(D) Processes on system are in waiting state

91. Page stealing

(A) is a sign of efficient system
(B) is taking page frames other working sets
(C) should be the tuning goal
(D) is taking larger disk spaces for pages paged out

92. What is compaction?

(A) Technique for overcoming internal fragmentation
(B) A paging technique
(C) A technique for overcoming external fragmentation
(D) A technique for overcoming fatal error

93. 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?

(A) Efficient implementation of multi-user support is no longer possible
(B) The processor cache organization can be made more efficient now
(C) Hardware support for memory management is no longer needed
(D) CPU scheduling can be made more efficient now

94. Increasing the RAM of a computer typically improves performance because

(A) Virtual memory increases
(B) Larger RAMs are faster
(C) Fewer page faults occur
(D) Fewer segmentation faults occur

95. A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128 page table entries and is 4-way set associative. The minimum size of the TLB tag is

(A) 11 bits
(B) 13 bits
(C) 15 bits
(D) 20 bits

96. Virtual memory is

(A) Large secondary memory
(B) Large main memory
(C) Illusion of large cache memory
(D) Illusion of large main memory

97. Page fault occurs

(A) when a requested page is in memory
(B) when a requested page is not in memory
(C) when a page is corrupted
(D) when an exception is thrown

98. Which of the following is major part of time taken when accessing data on the disk?

(A) Settle time
(B) Rotational latency
(C) Seek time
(D) Waiting time

99. A CPU generally handles an interrupt by executing an interrupt service routine

(A) as soon as an interrupt is raised
(B) by checking the interrupt register at the end of fetch cycle.
(C) by checking the interrupt register after finishing the execution of the current instruction.
(D) by checking the interrupt register at fixed time intervals.

100. How many undirected graphs (not necessarily connected) can be constructed out of a given set V= {V 1, V 2,…V n} of n vertices ?

(A) 2^(n(n-1)/2)
(B) 2^n
(C) n!
(D) n(n-l)/2

101. The product of complex numbers (4,3) and (5,-6) is ?

(A) (18,3)
(B) (18,-3)
(C) (38,9)
(D) (38,-9)

102. The function $f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$ is called derivative with respect to x, if the limit h

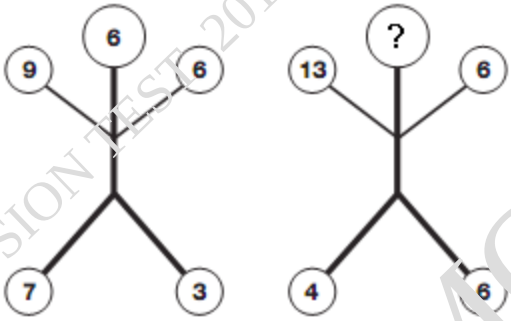
(A) $h \to 0$

(B) $h \to -\infty$

(C) $h \to \infty$

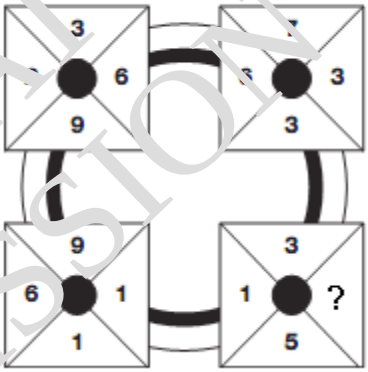
(D) $h \to \mathbb{Z}$; where $\mathbb{Z}$ is an integer

103. Which number replaces the question mark?



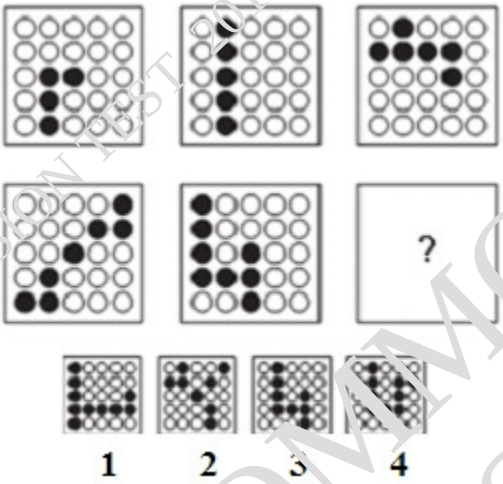
(A) 4
(B) 5
(C) 7
(D) 9

104. Which number replaces the question mark?



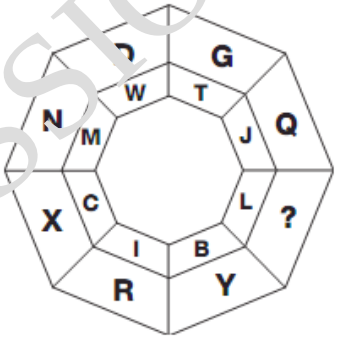
(A) 3
(B) 1
(C) 9
(D) 5

105. What is missing in the last grid?



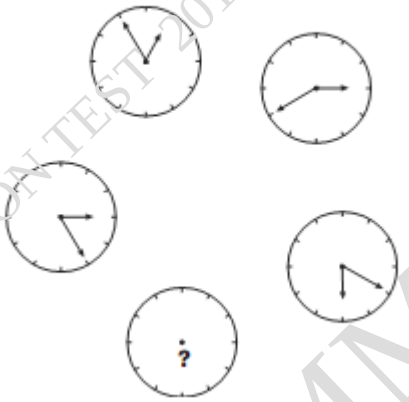
(A) 1
(B) 2
(C) 3
(D) 4

106. Which letter replaces the question mark?



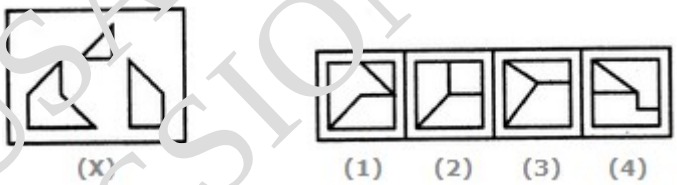
(A) F
(B) K
(C) O
(D) P

107. What time should the bottom clock show?



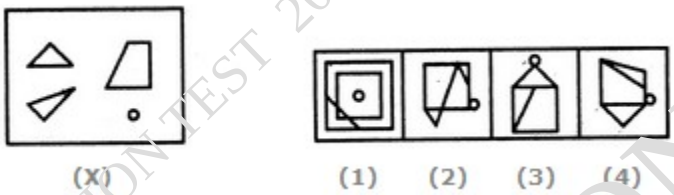
(A) Five minutes to ten
(B) Ten minutes to fifteen
(C) 20 minutes to thirty
(D) Fifty minutes to sixty

108. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



(A) 1
(B) 2
(C) 3
(D) 4

109. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

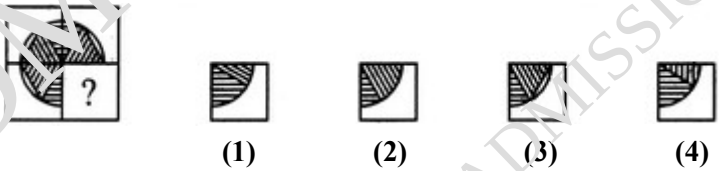


(A) 1
(B) 2
(C) 3
(D) 4

110. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

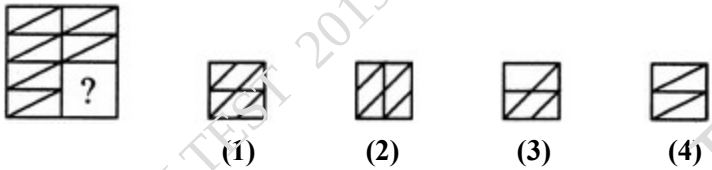
(A) 1
(B) 2
(C) 3
(D) 4

111. Identify the figure that completes the pattern.



(A) 1
(B) 2
(C) 3
(D) 4

112. Identify the figure that completes the pattern.



(A) 1
(B) 2
(C) 3
(D) 4

113. Identify the figure that completes the pattern.

(A) 1
(B) 2
(C) 3
(D) 4

Direction (Q.Nos. 114-117). In each series, look for the degree and direction of change between the numbers. In other words, do the numbers increase or decrease, and by how much

114. Look at this series: 2, 1, (1/2), (1/4), ... What number should come next?

(A) (1/3)
(B) (1/8)
(C) (2/8)
(D) (1/16)

115. Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next?

(A) 7
(B) 10
(C) 12
(D) 13

116. Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

(A) 20
(B) 22
(C) 23
(D) 26

117. Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next?

(A) 12
(B) 14
(C) 27
(D) 53

118. Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

(A) 1
(B) 2
(C) 3
(D) 4

119. Ravi left home and cycled 10 km towards South, then turned right and cycled 5 km and then again turned right and cycled 10 km. After this he turned left and cycled 10 km to reach home. How many kilometers will he have to cycle to reach his home straight?

(A) 10 km
(B) 15 km
(C) 20 km
(D) 25 km

120. Which one will replace the question mark?

19, 25, 32, 40, **?**, 59

(A) 46
(B) 49
(C) 55
(D) 51

121. Which one will replace the question mark?

216, 72, 36, 12, **?**, 2

(A) 8
(B) 6
(C) 4
(D) 3

122. Which one will replace the question mark?

1, 4, 27, 16, 125, **?**, 343

(A) 216
(B) 25
(C) 36
(D) 225

123. Which one will replace the question mark?

CEH, **?**, OQT, UWZ

(A) ACG
(B) IKN
(C) FGJ
(D) KLM

124. Which one will replace the question mark?

AEFG, BHIJ, **?**, DNOP

(A) CIJK
(B) CFGI
(C) CKLM
(D) CKMP

125. Which one will replace the question mark?

H8, L12, O15, S19, **?**

(A) U21
(B) W23
(C) V22
(D) Y25

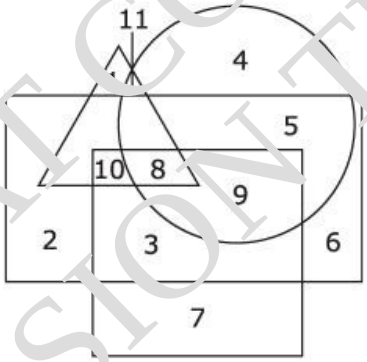
126. In a certain code language if the word 'MUSEUM' is coded as 'LSPAPG', then how will the word 'PALACE' is coded in that language?

(A) OYIWXY
(B) OYIXYW
(C) IYXYWO
(D) YXWYOI

127. If DELHI is coded as 73541 and CALCUTTA as 82589662, how can CALICUT be coded?

(A) 5279431
(B) 5978213
(C) 8251896
(D) 8543691

Direction : These questions are based on the figure given below in which
(a) Rectangle represents Males
(b) Circle represents the Urban
(c) Square represents the Educated
(d) Triangle represents the Civil Servants



128. The number indicating the uneducated urban males is

(A) 4
(B) 5
(C) 7
(D) 11

129. The number indicating the educated civil servants who are males but not urbans is

(A) 7
(B) 8
(C) 9
(D) 10

130. The number indicating the educated urban males who are not civil servants is

(A) 8
(B) 9

(C) 10
(D) 11

131. The number indicating the educated males who are urban civil servants is

(A) 4
(B) 7
(C) 8
(D) 9

132. The number indicating the uneducated females who are urban civil servants is

(A) 6
(B) 9
(C) 10
(D) 11

Directions: In the following question given below, there is a sentence of which some parts have been jumbled up. Rearrange these parts which are labeled **P, Q, R** and **S** to produce the correct sentence. Choose the proper sequence.

133. When he
P : did not know
Q : he was in trouble and
R : heard the hue and cry at midnight
S : what to do

The proper sequence should be:

(A) RQPS
(B) QSPR
(C) SQPR
(D) PQRS

134. It has been established that
P : Einstein was
Q : although a great scientist
R : weak in arithmetic
S : right from his school days

The proper sequence should be:

(A) SRPQ
(B) QPRS
(C) QPSR
(D) RQPS

135. Then

P : it struck me
Q : of course
R : suitable it was
S : how eminently

The proper sequence should be.

(A) SPQR
(B) QSRP
(C) PSRQ
(D) QPSR

136. I read an advertisement that said

P : posh, air-conditioned
Q : gentleman of taste
R : are available for
S : fully furnished rooms

The proper sequence should be:

(A) PQRS
(B) PSRQ
(C) PSQR
(D) SRPQ

137. Since the beginning of history

P : have managed to catch
Q : the Eskimos and Red Indians
R : by a very difficulty method
S : a few specimens of this aquatic animal

The proper sequence should be:

(A) QRPS
(B) SQPR
(C) SQRP
(D) QPSR

138. Look at the series below . Which number should come next?

2, 5, 10, 17, 26, ……. ….

(A) 35
(B) 37
(C) 41
(D) 40

139. Which number should replace the question mark?

9, 18, 54, 216, **?** , 6480.

(A) 432
(B) 1080
(C) 864
(D) 1512

140. Which number should replace the question mark?

21, 34, 55, 89, 144, **?**, 377

(A) 199
(B) 233
(C) 220
(D) 241

141. Look at the series below . Which number should come next?

22, 21, 23, 22, 24, 23, …..

(A) 22
(B) 24
(C) 25
(D) 26

142. Look at the series below . Which number should come next?

4, 6, 12, 14, 28, 30, …….

(A) 40
(B) 60
(C) 48
(D) 38

143. If $f(x) = x^3 - 2x + 10$, then $f'(2) = ?$

(A) 10
(B) 12
(C) 14
(D) 16

144. Consider the velocity of the car $v = 2t^3 + 3t^2 - 2t$. What is the acceleration for $t = 2$?

(A) 28
(B) 30
(C) 32
(D) 34

145. If $y = \sin(2\pi)$, then $\frac{dy}{dx} = ?$

(A) 0

(B) π

(C) 2π

(D) $\cos(2\pi)$

146. If $2^x = 32$, then $x = ?$

(A) 2
(B) 3
(C) 4
(D) 5

147. What is the value of x in the equation $\log_x \frac{1}{81} = 4$?

(A) 2
(B) 1/2
(C) 3
(D) 1/3

148. log 4 + log 25 = ?

(A) 2
(B) 3
(C) 4
(D) 5

149. What is the value of x in the logarithmic equation $\log(x+2) - \log(x-1) = \log 2$?

(A) 2
(B) 3
(C) 4
(D) 5

150. What is the value of x in the exponential equation $9 + e^{2x-4} = 10$?

(A) 2
(B) 3
(C) 4
(D) 5

MCA LET/MSC COMPUTER SCIENCE - ANSWER KEY

TEST CODE: 502

QN. NO.	KEY	QN. NO.	KEY	QN. NO.	KEY	QN. NO.	KEY	QN. NO.	KEY
1	B	26	B	51	B	76	A	101	D
2	C	27	C	52	D	77	B	102	A
3	B	28	B	53	B	78	D	103	B
4	C	29	B	54	A	79	D	104	C
5	B	30	D	55	D	80	D	105	D
6	A	31	D	56	B	81	B	106	C
7	B	32	C	57	B	82	D	107	A
8	C	33	C	58	B	83	B	108	A
9	C	34	A	59	B	84	C	109	C
10	D	35	A	60	A	85	B	110	A
11	A	36	D	61	C	86	D	111	C
12	A	37	B	62	C	87	C	112	D
13	D	38	A	63	D	88	A	113	B
14	D	39	D	64	B	89	A	114	B
15	A	40	A	65	C	90	B	115	B
16	C	41	D	66	B	91	B	116	B
17	A	42	C	67	C	92	C	117	B
18	B	43	A	68	A	93	C	118	C
19	B	44	C	69	C	94	C	119	B
20	B	45	C	70	D	95	C	120	B
21	D	46	B	71	B	96	D	121	B
22	D	47	B	72	A	97	B	122	C
23	C	48	C	73	D	98	C	123	B
24	B	49	B	74	C	99	C	124	C
25	A	50	A	75	C	100	A	125	C

QN. NO.	KEY
126	A
127	B
128	B
129	D
130	B
131	C
132	D
133	A
134	B
135	C
136	B
137	D
138	B
139	B
140	B
141	C
142	B
143	A
144	D
145	A
146	D
147	D
148	A
149	C
150	A