**1.Which of the following statements are correct about the below C-program?**

#include<stdio.h>

int main()

{

int x = 10, y = 100%90, i;

for(i=1; i<10; i++)

if(x != y);

printf("x = %d y = %d\n", x, y);

return 0;

}

1 :The printf() function is called 10 times.

2 :The program will produce the output x = 10 y = 10

3 :The ; after the if(x!=y) will NOT produce an error.

4 :The program will not produce output.

**A.**1 **B**.2, 3 **C.**3, 4 **D.**4

**2. What will be the output of the program?**

#include<stdio.h>

int main()

{

int k, num=30;

k = (num>5 ? (num <=10 ? 100 : 200): 500);

printf("%d\n", num);

return 0;

}

**A.**200 **B.**30 **C.**100 **D.**500

**3 Point out the error in the following program.**

#include<stdio.h>

int main(){

struct emp {

char name[20];

float sal;

};

struct emp e[10];

int i;

for(i=0; i<=9; i++)

scanf("%s %f", e[i].name, &e[i].sal);

return 0;

}

**A.**Suspicious pointer conversion

**B.**Floating point formats not linked (Run time error)

**C.**Cannot use scanf() for structures

**D.**Strings cannot be nested inside structures

**4. The keyword used to transfer control from a function back to the calling function is**

**A.**switch **B.**goto

**C**.go back **D**.return

**5. Which of the following statements are correct about the function?**

long fun(int num)

{

int i;

long f=1;

for(i=1; i<=num; i++)

f = f \* i;

return f;

}

**A.**The function calculates the value of 1 raised to power num.

**B.**The function calculates the square root of an integer

**C.**The function calculates the factorial value of an integer

**D.**None of above

**6. Will the program compile in Turbo C?**

#include<stdio.h>

int main()

{

int a=10, \*j;

void \*k;

j=k=&a;

j++;

k++;

printf("%u %u\n", j, k);

return 0;

}

**A.**YES **B.**NO

**7. Which of the following statements are correct about an array?**

1:The array int num[26]; can store 26 elements.

2:The expression num[1] designates the very first element in the array.

3:It is necessary to initialize the array at the time of declaration.

4:The declaration num[SIZE] is allowed if SIZE is a macro.

**A.**1 **B.**1,4 **C.**2,3 **D.**2,4

**8. What will be the output of following programs**

#include <stdio.h>

void main()

{

int n = 0, m = 0;

if (n > 0)

if (m > 0)

printf("True");

else

printf("False");

}

**A.** True **B.** False

**C.** No Output will be printed **D.** Run Time Error

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

**A .**AVL tree **B** .Red-black tree

**C.** Lemma tree **D**. None of the above

**10. Which of the following is not the part of ADT description?**

**A.** Data **B.** Operations

**C.** Both of the above **D.** None of the above

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

**A**. Arrays **B.** Records

**C.** Pointers **D.** Stacks

**12. Which data structure is used in breadth first search of a graph to hold nodes?**

**A.** Stack **B.** queue **C.** Tree **D.** Array

**13. Which of the following is not possible with an array in C/C++ programming langauge**

**A.** Declaration **B.** Definition

**C.** Dynamic Allocation **D.** Array of strings

**14. A circular linked list can be used for**

**A.** Stack **B.** Queue

**C.** Both Stack & Queue **D**. Neither Stack or Queue

**15. Time required to merge two sorted lists of size m and n, is**

**A.** Ο(m | n) **B.** Ο(m + n)

**C.** Ο(m log n) **D.** Ο(n log m)

**16. For a binary search algorithm to work, it is necessary that the array (list) must be**

**A.** sorted **B.** unsorted

**C.** in a heap **D.** popped out of stack

**17. Which of the following searching techniques do not require the data to be in sorted form**

**A.** Binary Search **B.** Interpolation Search

**C.** Linear Search **D.** All of the above

**18. A logical schema**

**A.** is the entire database

**B.** is a standard way of organizing information into accessible parts.

**C.** Describes how data is actually stored on disk.

**D.** All of the above

**19. The collection of information stored in a database at a particular moment is called as.**

**A.** schema **B.** instance of the database

**C.** data domain **D.** independence

**20. Data independence means**

**A.** data is defined separately and not included in programs.

**B.** programs are not dependent on the physical attributes of data

**C.** programs are not dependent on the logical attributes of data

**D.** both B and C

**21. Which of the following SQL command can be used to modify existing data in a database table?**

**A.** MODIFY **B.** UPDATE

**C.** CHANGE **D.** NEW

**22. A primary key if combined with a foreign key creates**

**A.** Parent-Child relationship between the tables that connect them

**B.** Many to many relationship between the tables that connect them

**C.** Network model between the tables that connect them

**D.** None of the above

**23. Which two files are used during operation of the DBMS**

**A.** Query languages and utilities

**B.** DML and query language

**C.** Data dictionary and transaction log

**D.** Data dictionary and query language

**24. A ........... is a set of column that identifies every row in a table.**

**A.** composite key **B.** candidate key

**C.** foreign key **D.** super key

**25. Which if the following is not the type of data integrity.**

**A.** Key integrity **B.** Domain integrity

**C.** Entity integrity **D.** Referential integrity

**26. 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

**27. Which of the following is TRUE?**

**A.** Every relation in 3NF is also in BCNF

**B.** A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R

**C.** Every relation in BCNF is also in 3NF

**D.** No relation can be in both BCNF and 3NF

**28. The maximum number of superkeys for the relation schema R(E,F,G,H) with E as the key is**

**A.** 5 **B.** 6 **C.** 7 **D.** 8

**29.Which of the following scenarios may lead to an irrecoverable error in a database system ?**

**A.** A transaction writes a data item after it is read by an uncommitted transaction

**B.** A transaction reads a data item after it is read by an uncommitted transaction

**C.** A transaction reads a data item after it is written by a committed transaction

**D.** A transaction reads a data item after it is written by an uncommitted transaction

**30. Which one of the following is an application of Queue Data Structure?**

**A.** When a resource is shared among multiple consumers.

**B.** When data is transferred asynchronously (data not necessarily received at same rate as sent) between two processes

**C.** Load Balancing **D.** All of the above

**31. How many queues are needed to implement a stack. Consider the situation where no other data structure like arrays, linked list is available to you.**

**A.** 1 **B.** 2 **C.** 3 **D.** 4

**32. Which of the following is true about linked list implementation of queue?**

**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.

**B.** In push operation, if new nodes are inserted at the end, then in pop operation, nodes must be removed from the beginning.

**C.** Both of the above **D.** None of the above

**33. What will be the output of following program**

void fun(int \*p) {

int q = 10;

p = &q;

}

int main() {

int r = 20;

int \*p = &r;

fun(p);

printf("%d", \*p);

return 0;

}

**A.** 10 **B.** 20

**C.** Compiler error **D.** Runtime Error

**34. Assume sizeof an integer and a pointer is 4 byte. Then what will be the Output?**

#include <stdio.h>

#define R 10

#define C 20

int main(){

int (\*p)[R][C];

printf("%d", sizeof(\*p));

getchar();

return 0;

}

**A.** 200 **B.** 4 **C.** 800 **D.** 80

**35. Find the output of the following program.**

#include <stdio.h>

int main()

{

int a[5] = {1,2,3,4,5};

int \*ptr = (int\*)(&a+1);

printf("%d %d", \*(a+1), \*(ptr-1));

return 0;

}

**A.** 2 5 **B.** Garbage Value

**C.** Compiler Error **D.** Segmentation Fault

**36.In a 1:N relationship, the foreign key is placed in:**

**A.** Either table without specifying parent and child tables.

**B.** The parent table.

**C.** The child table.

**D.** Either the parent table or the child table.

**37.A primary key should be defined as:**

**A.** NULL

**B.** NOT NULL

**C.** Either of the above can be used.

**D.** None of the above are correct.

**38.Which of the following situation requires the use of ID-dependent entities?**

**A.** Association relationships only

**B.** Multivalued attributes only

**C.** Archetype/instance relationships only

**D.** All of the above use ID dependent entities

**39. Which of the following columns is(are) are required in a table to be in 1NF?**

**A.** A foreign key **B.** An alternate key

**C.** A primary key **D.** A surrogate key.

**40. Which of the following column properties would be used to specify that cells in a column must be immediately filled with a monetary value of $10,000?**

**A.** Null status **B.** Data type

**C.** Default value **D.** Data constraints

**41. A unique, DBMS-supplied identifier used as the primary key of a relation is called a(n):**

**A.** primary key. **B.** foreign key.

**C.** composite key. **D.** surrogate key.

**42. 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%';

**43. 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';

**44.A priority queue is implemented as a Max-Heap. Initially, it has 5 elements. The level-order traversal of the heap is: 10, 8, 5, 3, 2. Two new elements 1 and 7 are inserted into the heap in that order. The level-order traversal of the heap after the insertion of the elements is:**

**A.** 10, 8, 7, 3, 2, 1, 5 **B.** 10, 8, 7, 2, 3, 1, 5

**C.** 10, 8, 7, 1, 2, 3, 5 **D.** 10, 8, 7, 5, 3, 2, 1

**45. Let P be a QuickSort Program to sort numbers in ascending order using the first element as pivot. Let t1 and t2 be the number of comparisons made by P for the inputs {1, 2, 3, 4, 5} and {4, 1, 5, 3, 2} respectively. Which one of the following holds?**

**A.** t1 = 5 **B.** t1 < t2

**C.** t1 > t2 **D.** t1 = t2

**46. When determining the efficiency of algorithm, the space factor 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

**47. In linear search algorithm the Worst case occurs when**

**A.** The item is somewhere in the middle of the array

**B.** The item is not in the array at all

**C.** The item is the last element in the array

**D.** The item is the last element in the array or is not there at all

**48.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

**49.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

**50. Time quantum is defined in**

**A.** shortest job scheduling algorithm

**B.** round robin scheduling algorithm

**C.** priority scheduling algorithm

**D.** multilevel queue scheduling algorithm