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Total Questions: 40 | All questions are must (*) to attempt

* Required

Email *

ashishkumar.cse18@chitkarauniversity.edu.in

A large cube is formed from the material obtained by melting three smaller cubes of 3, 4 and 5cm side. What is the ratio of the total surface areas of the smaller cubes and the large cube? * 1 point

- 2 : 1
- 3 : 2
- 25 : 18
- 27 : 20

Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour? * 1 point

- 9
- 10
- 12
- 20

The ratio between the speeds of two trains is 7 : 8. If the second train runs 400 km in 4 hours, then the speed of the first train is: * 1 point

- ○ 70 km/hr
- ○ 75 km/hr
- ○ 84 km/hr
- ◉ 87.5 km/hr

A cistern of capacity 8000 liters measures externally 3.3 m by 2.6 m by 1.1 m and its walls are 5 cm thick. The thickness of the bottom is: * 1 point

- ○ 90 cm
- ◉ 1 dm
- ○ 1 m
- ○ 1.1 cm

What will be the output of the program? * 1 point

```
#include<stdio.h>
int main() {
    float a = 0.7;
if(0.7 > a)
printf("Hi\n");
else
printf("Hello\n");
return 0; }
```

- ◉ Hi
- ○ Hello
- ○ Hi Hello
- ○ None of above

Consider a C++ function “is_even”, which takes in an integer and returns true if the argument is an even number, and false otherwise. Which of the following are correct declarations for overloaded versions of that function to support floating point numbers and string representations of numbers? *

1 point

bool is_even_float(float)
bool is_even_str(char*)

Option 1

bool is_even(float)
bool is_even(char*)

Option 2

bool is_even(float)
bool is_even(char)

Option 3

bool is_even(float)
char* is_even(char*)

Option 4

Point out the error, if any in the program. * 1 point

```
#include<stdio.h>
int main()
{
    int i = 1;
    switch(i)
    {
        printf("This is c program.");
        case 1:
            printf("Case1");
            break;
        case 2:
            printf("Case2");
            break;
    }
return 0;
}
```

- ○ Error: No default specified
- ○ Error: Invalid printf statement after switch statement
- ◉ No Error and prints "Case1"
- ○ None of above

If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is: * 1 point

- ◉ 50km
- ○ 56km
- ○ 70km
- ○ 80km

A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is: * 1 point

- ○ 100 Kmph
- ○ 110 Kmph
- ◉ 120 Kmph
- ○ 100 kmph

What is the ternary operator equivalent of this code snippet? * 1 point

```
if (x)
  y=a
else
  y=b
```

- ○ y = if (x?a:b)
- ◉ y = x?a:b
- ○ y = (x&a)?a:(x&b)?b:0
- ○ y = a?b:x

Which of the following correctly shows the hierarchy of arithmetic operations in C? * 1 point

- ( ) / + * -
- ( ) * - / +
- ( ) + - / *
- (•) / * + -

Cause and Effect -Statement I - India has surpassed the value of tea exports this year over all the earlier years due to an increase in demand for quality tea in the European market. Statement II - There is an increase in demand of coffee in the domestic market during the last two years. * 1 point

- ( ) Statement I is the cause and statement II is its effect
- ( ) Statement II is the cause and statement I is its effect
- (•) Both the statements I and II are independent causes
- ( ) Both the statements I and II are effects of independent causes

What will be the output of the following C code? * 1 point

```
#include <stdio.h>
  int main()
  {
     int *p = NULL;
     for (foo(); p; p = 0)
        printf("In for loop\n");
        printf("After loop\n");
  }
```

- ○ In for loop after loop
- ◉ Compile time error
- ○ Infinite loop
- ○ Depends on the value of NULL

Which of the following is NOT a consequence of declaring the member variable count of my_class as static? * 1 point

```
class my_class{
public static int count;
}
```

- ○ The variable exists even when no objects of the class have been defined so it can be modified at any point in the source code.
- ◉ The variable cannot be modified by any part of the code in the same application or thread.
- ○ All objects that try to access their count member variable actually refer to the only class-bound static count variable.
- ○ The variable is allocated only once, regardless of how many objects are instantiated because it is bound to the class itself, not its instances.

Choose the statement which is incorrect with respect to dynamic memory allocation. * 1 point

- ○ Memory is allocated in a less structured area of memory, known as heap
- ○ Used for unpredictable memory requirements
- ◉ Execution of the program is faster than that of static memory allocation
- ○ Allocated memory can be changed during the run time of the program based on the requirement of the program

Point out the error, if any in the 'for' loop. * 1 point

```
#include<stdio.h>
int main() {     int
i=1;     for(;;)
{
printf("%d\n", i++);
if(i>10)
break;
    }     return 0;
}
```

- ○ There should be a condition in the for loop.
- ○ The two semicolons should be dropped.
- ○ The for loop should be replaced with while loop.
- ◉ No error.

Look at this series: 28 25 5 21 18 5 14 ... What number should come next? * 1 point

- ◉ 11 5
- ○ 10 7
- ○ 11 8
- ○ 5 10

In C all functions except main() can be called recursively. * 1 point

- (●) False
- ( ) True

The angle between the minute hand and the hour hand of a clock when the time is 4.20, is: * 1 point

- ( ) 0°
- (●) 10°
- ( ) 5°
- ( ) 20°

Cause and Effect - The Reserve Bank of India has recently put restrictions on few small banks in the country. The small banks in the private and co-operative sector in India are not in a position to withstand the competitions of the bigger in the public sector. * 1 point

- ( ) Statement I is the cause and statement II is its effect
- (●) Statement II is the cause and statement I is its effect
- ( ) Both the statements I and II are independent causes
- ( ) Both the statements I and II are effects of independent causes

If Simran's job is to recruit, develop and manage staff in her organization, which among the following is her designation? * 1 point

- ○ Personal Manager
- ○ Personnal Manager
- ◉ Personnel Manager
- ○ Personality Manager

What will be the output of the program? * 1 point

```
#include<stdio.h>
int main()
{
    int a = 500, b = 100, c;
    if(!a >= 400)
        b = 300;
    c = 200;
    printf("b = %d c = %d\n", b, c);
    return 0;
}
```

- ○ b = 300 c = 200
- ○ b = 100 c = garbage
- ○ b = 300 c = garbage
- ◉ b = 100 c = 200

Which of the following statement is true? * 1 point

- ◉ C++ supports multiple inheritance.
- ○ C++ supports single inheritance.
- ○ Only structs can inherit
- ○ None of the Above

A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit? * 1 point

- ○ Rs. 18.20
- ○ Rs. 70
- ◉ Rs. 72
- ○ Rs. 88.25

The HAVING clause does which of the following? * 1 point

- ◉ Acts like a WHERE clause but is used for groups rather than rows.
- ○ Acts like a WHERE clause but is used for rows rather than columns.
- ○ Acts like a WHERE clause but is used for columns rather than groups.
- ○ Acts EXACTLY like a WHERE clause.

What will be the output of the following C code? * 1 point

```
#include <stdio.h>
void main()
{
   int k;
   for (k = -3; k < -5; k++)
      printf("Hello");
}
```

- ○ Hello
- ○ Infinite hello
- ○ Run time error
- ◉ Nothing

Which of the following is the correct usage of conditional operators used in C? * 1 point

- [ ] a>b ? c=30 : c=40;
- [ ] a>b ? c=30;
- [x] max = a>b ? a>c?a:c:b>c?b:c
- [ ] return (a>b)?(a:b)

Six bells commence tolling together and toll at intervals of 2, 4, 6, 8 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together ? * 1 point

- [ ] 4
- [ ] 10
- [ ] 15
- [x] 16

What will be the output of the following C code? * 1 point

```
#include <stdio.h>
int main()
{
   printf("before continue ");
   continue;
   printf("after continue\n");
}
```

- ○ Before continue after continue
- ○ Before continue
- ○ After continue
- ◉ Compile time error

In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit? * 1 point

- ○ 30%
- ◉ 70%
- ○ 100%
- ○ 250%

What does this C++ program do? * 1 point

```
#include <iostream>
#include <fstream>
using namespace std
int main(){
    ifstream file1("text1.txt", ios::binary);
    ofstream file2("text2.txt", ios::binary);
    file2 << file1.rdbuf();
}
```

- (●) Copies the contents of text1.txt into text2.txt i.e., makes a copy of text1.txt, named text2.txt.
- ( ) Renames text1.txt to text2.txt.
- ( ) Creates a directory text2.txt and moves text1.txt inside that.
- ( ) Appends the contents of text1.txt into text2.txt i.e., replace the contents of text2.txt by the concatenation of text2.txt and text1.txt.

Can I increase the size of dynamically allocated array? * 1 point

- (●) Yes
- ( ) No

3. What will be the output of the following C code? * 1 point

```
#include <stdio.h>
int *f();
int main()
{
   int *p = f();
   printf("%d\n", *p);
}
int *f()
{
   int j = 10;
   return &j;
}
```

- (●) 10
- ( ) Compile time error
- ( ) Segmentation fault/runtime crash
- ( ) Undefined behaviour

What will be the output of the following C code? * 1 point

```
#include <stdio.h>
struct student
{
   char a[5];
};
void main()
{
   struct student s[] = {"hi", "hey"};
   printf("%c", s[0].a[1]);
}
```

- ○ h
- ◉ i
- ○ e
- ○ y

If, in a language, ‘one’ is called ‘two’, ‘two’ is called ‘three’, ‘three’ is called ‘four’, ‘four’ is called ‘five’ and ‘five’ is called ‘six’. Then what is the square of number 2? * 1 point

- ○ Three
- ○ Four
- ◉ Five
- ○ None of these

Which of the following C++ classes is the best fit for implementing a data collection that is always ordered such that the pop operation always gets the greatest of the elements? Only push and pop operations can be taken into consideration. * 1 point

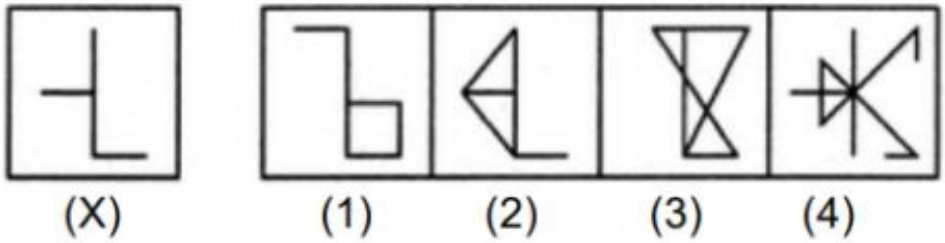
- ○ std::vector
- ◉ std::priority_queue
- ○ std::list
- ○ std::map

What will be the output of the program ? * 1 point

```
#include<stdio.h>
 int main() {
    int a[5] = {5, 1, 15, 20, 25};
int i, j, m;     i = ++a[1];     j
= a[1]++;     m = a[i++];
    printf("%d, %d, %d", i, j, m);
return 0; }
```

- ○ 2, 1, 15
- ○ 1, 2, 5
- ◉ 3, 2, 15
- ○ 2, 3, 20

Find out the alternative figure which contains figure (X) as its part. * 1 point



- [ ] 1
- [x] 2
- [ ] 3
- [ ] 4

Today is Monday. After 61 days, it will be: * 1 point

- [ ] Wednesday
- [x] Saturday
- [ ] Tuesday
- [ ] Thursday

What will be the output of the following C code? * 1 point

```
#include <stdio.h>
int main()
{
   printf("before continue ");
   continue;
   printf("after continue\n");
}
```

- ○ Before continue after continue
- ○ Before continue
- ○ After continue
- ◉ Compile time error

Submit