TCS Programming Questions & Answers

C Pragramming

1. What will be returned in the following C code?

```
size- t strlen(const char *s)
const char *sc;
for(sc = s; *sc!= ' \ 0 ' ; ++sc)
return(sc - s) ;
```

a) number of characters equal in sc
b) length of string s
c) doesn't return any value
d) displays string s

Answer: b
Explanation: The strlen() function is used to return the length of the string s.

2. The C code 'for(;;)' represents an infinite loop. It can be terminated by _____

a) break
b) exit(0)
c) abort()
d) terminate

Answer: a

CPP

3. What will be the output of the following C++ code?

```
1.    #include <iostream>
2.    using namespace std;
3.    int main()
4.    {
5.        int a[2][4] = {3, 6, 9, 12, 15, 18, 21, 24};
6.        cout << *(a[1] + 2) << *(*(a + 1) + 2) << 2[1[a]];
7.        return 0;
8.    }
```

a) 15 18 21
b) 21 21 21

c) 24 24 24
d) Compile time error

Answer: b
Explanation: a[1][2] means 1 * (4)+2 = 6th element of an array starting from zero.
Output:

```
$ g++ point.cpp
$ a.out
21 21 21
```

4. What are the advantages of passing arguments by reference?
a) Changes to parameter values within the function also affect the original arguments
b) There is need to copy parameter values (i.e. less memory used)
c) There is no need to call constructors for parameters (i.e. faster)
d) All of the mentioned

Answer: d
Explanation: All the above mentioned are advantages and properties of call by reference.

Java

5. What will s2 contain after following lines of Java code?

```
StringBuffer s1 = "one";
StringBuffer s2 = s1.append("two")
```

a) one
b) two
c) onetwo
d) twoone

Answer: c
Explanation: Two strings can be concatenated by using append() method.

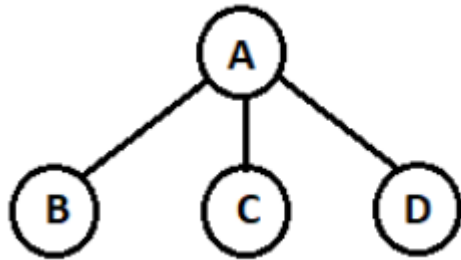**6.** Thread priority in Java is?
a) Integer
b) Float
c) double
d) long

Answer: a
Explanation: Java assigns to each thread a priority that determines hoe that thread should be treated with respect to others. Thread priority is integers that specify relative priority of one thread to another.

Data Structures

7. Which node is the child node of the Node D in the following ternary tree?

a) A
b) C
c) B
d) No child node

Answer: d
Explanation: Since Node D is the Leaf node of the above ternary tree and leaf node has no child node. So there is no child node for Node D in the above ternary tree.

8. While evaluating a prefix expression, the string is read from?
a) left to right
b) right to left
c) center to right
d) center to left to right

Answer: b
Explanation: The string is read from right to left because a prefix string has operands to its right side.

CPP

9. Which is used to describe the function using placeholder types?
a) template parameters
b) template type parameters
c) template type
d) type parameters

Answer: b

Explanation: During runtime, We can choose the appropriate type for the function and it is called as template type parameters.

10. What will be the output of the following C++ code?

```cpp
#include <iostream>
#include <string>
#include <cstdlib>
using namespace std;

void func(int a, int b)
{

        if(b == 0){
                throw "This value of b will make the product zero. "
                        "So please provide positive values.\n";
        }
        else{
                cout<<"Product of "<<a<<" and   "<<b<<" is: "<<a*b<<endl;
        }
}

int main()
{
        try{
                func(5,0);
        }
        catch(const char* e){
                cout<<e;
        }
}
```

a) 0
b) 5
c) This value of b will make the product zero. So please provide positive values.
d) Product of 5 and 0 is: 0

Answer: c

Explanation: As the value of b = 0 is provided to the func() and the function is throwing an exception whenever the value of b = 0. Therefore the function throws the exception which will be printed on the screen.

Output:

```
$ ./a.out
This value of b will make the product zero. So please provide positive values.
```