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Grade	Not yet graded

Question 1
Correct
Mark 2.00 out of 2.00
Flag question

What will be the outcome of building and executing the following program? *[MCQ, Marks 2]*

```
#include <iostream>
using namespace std;

typedef char mychar;

mychar operator*(mychar a, mychar b) { // Line L1
    return a*b; // Line L2
}

int main() {
   mychar a = 3, b =4, c;
   cout << "c: "<<c<<endl;
   return 0;
}
```

Select one:

a. Compilation error operator* cannot be overloaded for built-in type (Line L1) ✓

b. Output 12

c. Compilation error: operator* not defined for datatype char

d. Output character corresponding to ASCII value 12

Your answer is correct.
The correct answer is:
Compilation error operator* cannot be overloaded for built-in type (Line L1)

Question 2
Correct
Mark 3.00 out of 3.00
Flag question

Which of the statements (S1, S2, or S3) in the following program will result in a compilation error? *[MCQ, Marks 3]*

```
#include <cstdio>
using namespace std;

int main() {
    const int a[] = {1,2,3,4,5};
    int *p1 = a;     // Statement S1
    int *p2 = &a[1]; // Statement S2
    int *p3 = a+1;   // Statement S3

    for(int i=0;i<5;i++) printf("%d ", a[i] );
    return 0;
}
```

Select one:

a. S1 and S3

b. Only S1

c. All 3 statements ✓

d. S1 and S2

Your answer is correct.
The correct answer is:
All 3 statements

Question 3
Correct
Mark 4.00 out of 4.00
Flag question

What will be the outcome of building and executing the following program ?
[MCQ, Marks 4]

```
#include <iostream>
using namespace std;

void fun(float a, float b)
{ cout << "a: "<<a<<" b: "<<b<<endl; };

void fun(double c)
{ cout << "c: "<<c<<endl; }

void fun(float a, float b=1.0);      // Statement S1
void fun(float a=2.0, float b);

int main() {
   fun(12.0);   // Statement S2
}
```

Select one:

a. Output: a: 12 b: 1

b. Compilation error: Ambiguous call in statement S2

c. Compilation error: Duplicate definition in statement S1

d. Output: c: 12 ✓

Your answer is correct.
The correct answer is:
Output: c: 12

Question 4
Complete
Marked out of 5.00
Flag question

Predict the output for the following program. *[Short answer, Marks 5]*

```
#include <iostream>
using namespace std;

struct Vec {double x,y;};

Vec operator+(Vec a, Vec b)
{Vec r; r.x=a.x+b.x; r.y=a.y+b.y; return r;}

double operator*(Vec a, Vec b)
{return a.x*b.x+a.y*b.y;}

Vec operator*(double z, Vec a)
{ a.x=a.x*z; a.y=a.y*z; return a;}

int main() {
   Vec a= {2,3}, b={-2,1}, c = {0,0};
   for(int i=0; i<47; i++) c = c + (a * b) / (a * a) * a;
   cout << "c: "<<c.x<<", "<<c.y<<endl;
   return 0;
}
```

c: -7.23077, -10.8462

Question 5
Incorrect
Mark 0.00 out of 2.00
Flag question

Which of the following statements are true ? *[LM, Marks 2]*

S1 Function overloading is a feature provided for the implementation of the encapsulation principle.

S2 For functions with some of the parameters defaulted, arguments are substituted starting from the last parameter.

Select one:

a. Both S1 and S2 are false

b. S1 is true and S2 is false

c. S1 is false and S2 is true ✗

d. Both S1 and S2 are true

Your answer is incorrect.
The correct answer is:
Both S1 and S2 are false

Question 6
Partially correct
Mark 2.00 out of 4.00
Flag question

What will be the output of the following program? *[MCQ, Marks 4]*

```
#include <iostream>
using namespace std;

int &fun1(int a1, int &b1) { int t=a1; a1=b1; b1=t; return b1; }
int &fun2(int &a2, int b2) { int t=a2; a2=b2; b2=t; return a2; }

int main() {
    int  i=1,j=2;
    fun2(fun1(i,j),fun2(i,j));
    cout<<i<<" "<<j<<endl;
    return 0;
}
```

Select one:

a. 1 1

b. 2 2 ✓

c. 2 1

d. Undefined

Your answer is partially correct.
The correct answer is:
Undefined

Question 7
Correct
Mark 2.00 out of 2.00
Flag question

What will be the outcome of building and executing the following program ? *[MSQ, Marks 2]*

```
#include <cstdio>
using namespace std;

int main() {
    const volatile int b=2;   // Statement S1
    int *a = (int *) &b;      // Statement S2
    *a=3;
    printf("%d ", b );
    return 0;
}
```

Select one:

a. Output is 2

b. Compilation error in statement S1

c. Compilation error in statement S2

d. Output is 3 ✓

Your answer is correct.
The correct answer is:
Output is 3

Question 8
Correct
Mark 2.00 out of 2.00
Flag question

Which of the following statements is true: *[MCQ, Marks 2]*

S1 References can never refer to unallocated memory.

S2 Pointers can be used to pass constant arguments to functions.

Select one:

a. S1 is false and S2 is true ✓

b. Both S1 and S2 are false

c. S1 is true and S2 is false

d. Both S1 and S2 are true

Your answer is correct.
The correct answer is:
S1 is false and S2 is true

Question 9
Correct
Mark 3.00 out of 3.00
Flag question

What will be the outcome of building and executing the following program? *[MCQ, Marks 3]*

```
#include <iostream>
using namespace std;

void myswap(int &a,int &b) {int t=a; a=b; b=t;
                          cout<<"int swap\n"; return;};
void myswap(double &a,double &b) {double t=a; a=b; b=t;
                                  cout<<"double swap\n"; return;};

int main() {
   char a='a',b='b';
   myswap(a,b);
   return 0;
}
```

Select one:

a. Prints "int swap".

b. Prints "double swap".

c. Compilation error. No viable functions. ✓

d. Compilation error. Ambiguous function call.

Your answer is correct.
The correct answer is:
Compilation error. No viable functions.

Question 10
Correct
Mark 3.00 out of 3.00
Flag question

What will be the outcome of building and executing the following program ? *[MCQ, Marks 3]*

```
#include <iostream>
using namespace std;

int fun1(const int &i) { return i; }
int fun2(int &i) { return i; }
int fun3(const int i) {return i;}

int main() {
    int b=2;
    cout<<fun1(b+1)<<" ";       // Statement S1
    cout<<fun2(b+1)<<" ";       // Statement S2
    cout<<fun3(b+1)<<" ";       // Statement S2
    return 0;
}
```

Select one:

a. Compilation error in statement S3

b. Compilation error in statement S1

c. Output: 2 2 2

d. Compilation error in statement S2 ✓

Your answer is correct.
The correct answer is:
Compilation error in statement S2

Question 11
Correct
Mark 2.00 out of 2.00
Flag question

What is the output of the following program ? *[MCQ, Marks 2]*

```
#include <cstdio>
using namespace std;

int main() {
    unsigned char a[] = { 1, 2, 3, 4, 5 };
    unsigned short int *q = (unsigned short int*)a;
    printf("%u %u\n", (unsigned short int) *(a+2),
                      (unsigned short int) *(q+1) );

    return 0;
}
```

Given sizeof(unsigned char) = 1, sizeof(unsigned short int) = 2, and little-endian representation, what will be the output?

Select one:

a. 3 1027 ✓

b. 3 3

c. 3 772

d. 3 4

Your answer is correct.
The correct answer is:
3 1027

Question 12
Correct
Mark 2.00 out of 2.00
Flag question

What will be the output of the following program? *[MCQ, Marks 2]*

```
#include <iostream>
#include <cmath>
using namespace std;

int main() {
    double i = 500;
    while (i < 1000) {
        i = i+100;
        i = exp(i);
        i = log(i);
        cout << "i: " << i << " ";
    }
    return 0;
}
```

Select one:

a. infinite loop

b. 600 700 inf ✓

c. 500 600 700 800 900

d. 600 700 800 900

Your answer is correct.
The correct answer is:
600 700 inf