2013/2014 Test 1 **NBU**

NETB151 Object-Oriented Programming (C++)

Test No. 2319

1. We have the following variable definitions:

```
int p = 2;
int* ptr1;
int* ptr2 = new int(1);
```

Mark the correct/incorrect assignment statements.

a) `*p = NULL;`

b) `*p = *ptr2;`

c) `*ptr1 = 20;`

d) `*ptr1 = p;`

2. Mark the correct/incorrect pointer definitions and initialization.

a) `Time* = new Time();`

b) `int* pd = new double;`

c) `double* px = new double;`

d) `pointer* ptr = new;`

3. Mark the correct/incorrect definitions and initializations of character pointers and arrays.

a) `char car[10] = "Jaguar";`

b) `char one[1] = "1";`

c) `char just[5] = "just";`

d) `char* p = "point";`

4. We have the following classes:

```
class Point {
... };
class Circle : public Point {
... };
```

Mark the correct/incorrect assertions about the classes `Point` and `Circle`.

a) The member functions of the class `Circle` have access to any public member function of the class `Point`.

b) The data members of the class `Circle` are present in each object of the class `Point`.

c) The class `Circle` is the base class and the class `Point` is the derived class.

d) The data members of the class `Point` are present in each object of the class `Circle`.

5. We have the following variable definitions:

```
int a[3] = {10, 20, 30};
int* pa = a;
```

Mark with "yes" expressions which have value 30.

a) `*a + *(a + 1)`

b) `a[0] + a[1]`

c) `(pa + 1)[1]`

d) `(pa + 2)[0]`

6. Mark the correct/incorrect assertions about pointers.

a) You can obtain values of any type from the heap with the `new` operator.

b) It is an error to dereference the `NULL` pointer.

c) When passing an array to a function, only the starting address is passed.

d) Finding the value to which a pointer points is called dereferencing.

7. We have the following classes definitions:

```
class A {
public:
  void af();
... };
class B : public A {
public:
  void bf();
... };
```

and objects `oa` from the class `A` and `ob` from the class `B`. Mark the (syntax) correct/incorrect statements in the body of the `main` function.

a) `b->bf();`

b) `a->af();`

c) `oa.bf();`

d) `B::af();`

8. Mark the correct/incorrect assertions about stream classes, objects and member functions.

a) The object `cin` belongs to the class `iostream`.

b) The `close` member-function is defined for `fstream` objects.

c) An object of `ostream` class is a destination for bytes.

d) The `>>` operator is defined for `istream` objects.

9. Mark the correct/incorrect assertions about virtual functions and polymorphism.

a) When a member function is invoked through an object, it is always statically bound.

b) When a function is virtual in the base class, it cannot be made nonvirtual in a derived class.

c) Whenever a virtual function is called, the compiler determines the type of the implicit parameter in the particular call at run time.

d) Calling a virtual function is slower than calling a nonvirtual function.

10. Mark the correct/incorrect assertions about inheritance hierarchy of stream classes.

a) The `fstream` class derives from `ofstream`.

b) The `istringstream` class derives from `istream`.

c) The `iostream` class derives from `istream` and `ostream`.

d) The `ostringstream` class derives from `ostream`.

11. We have the following file variables:

```
ifstream fin;
ofstream fout;
fstream f;
```

and variables:

```
int k = 2;
double x = 2.1;
char ch = 'Y';
string s = "MyString";
```

Mark the syntax correct/incorrect statements.

a) `fin.put(s);`

b) `fout << "123\n";`

c) `fin.open(ch);`

d) `fout << x << " " << s;`