University of Sargodha

BS 2nd Term Exam 2016

Subject:IT/SE **Paper: Object Oriented Programming (CMP-2124)**

Time Allowed: 2:30 Hours **Maximum Marks: 80**

Objective Part Compulsory

Q.No.1: Attempt all parts and each require answer 2 – 3 lines (16*2=32)

1. Java does not support multiple inheritance. But we can achieve multiple inheritance through interfaces and can extend only one class. Multiple inheritance is not supported because it leads to deadly diamond problem.

2. In object-oriented programming, **polymorphism** (from the Greek meaning "having multiple forms") is the characteristic of being able to assign a different meaning or usage to something in different contexts - specifically, to allow an entity such as a variable, a function, or an object to have more than one form.

3. In a nutshell, **serialization** consists of writing data and objects on a support (a file, a buffer, a socket), so that they can be reconstructed later in the memory of the same or another computing host. The reconstruction process is also known as deserialization.

4. A **finally block** is guaranteed to be executed even if an exception is raised. You use them to perform necessary clean-up like closing streams. The code after the finally block might never be reached. The finally block always executes when the try block exits.

5. Constructor Overloading: Constructor can be overloaded in a similar way as function overloading. Overloaded constructors have the same name (name of the class) but different number of arguments. Depending upon the number and type of arguments passed, specific constructor is called.

6. Yes you can have multiple catch blocks with try statement. You start with catching specific exceptions and then in the last block you may catch base Exception. Only one of the catch block will handle your exception.

7. An **abstract class** is meant to be used as the base class from which other classes are derived. The derived class is expected to provide implementations for the member functions that are not implemented in the base class. A derived class that implements all the missing functionality is called a concrete class.

8. Every object in C++ has access to its own address through an important pointer called "**this**" pointer. The "this" pointer is an implicit parameter to all member functions. Therefore, inside a member function, this may be used to refer to the invoking object. Friend functions do not have a "this" pointer, because friends are not members of a class. Only member functions have a "this" pointer. Syntax:

```
return *this;        OR        this->member-identifier
```

9. Static methods cannot be overridden because method overriding only occurs in the context of dynamic (i.e. runtime) lookup of methods. Static methods (by their name) are looked up statically (i.e. at compile-time).

10. In general, a wrapper class is any class which "**wraps**" or "encapsulates" the functionality of another class or component. These are useful by providing a level of abstraction from the implementation of the underlying class or component.