

## CS504D (FE)

### Object-Oriented Programming

#### Multiple Choice Questions

1. Choose the correct alternatives for any ten of the following:
  - i) The method `int func (int i, int j) { }` can be overloaded using
    - A) `int func (int i, int j, int j) { }`
    - B) `int func (float i, int j) { }`
    - C) `float func (int i, int j) { }`
    - D) `int func (int a, int b) { }`
    - E) `float func (int i, int j, float k) { }`

a) (B) & (C)	c) (A), (B), (C) & (E)
b) (C) & (D)	d) (A), (B) & (E)
  - ii) What will happen if you compile / run this code?

```
public class Q1 extends Thred
{
    public void run ()
    {
        System.out.println("Before start method");
        this.stop();
    }
    public static void main (String [] args)
    {
        Q1 a = new Q1 ();
        a.start ();
    }
}
```

    - a) Compilation error at line 7
    - b) Runtime exception at line 7
    - c) Prints "Before start method" and "After stop method"
    - d) Prints "Before start method" only
  - iii) Which view shows how the various executables and other run-time components are mapped to underlying platforms?
    - a) Logical view
    - b) Implementation view
    - c) Deployment view
    - d) Process view
  - iv) Exception is defined in ..... package
    - a) `java.util`
    - b) `java.lang`
    - c) `java.awt`
    - d) `java.io`
  - v) In which class is the `wait ()` method defined?
    - a) `Applet`
    - c) `Thread`

- b) Runnable  
d) Object
- vi) What is an example of polymorphism?  
a) Inner class  
b) Anonymous classes  
c) Method overloading  
d) Method overriding
- vii) switch (i) {  
  
    default:  
  
    System.out.println ("Hello");  
  
}
- What is the acceptable type (s) for the variable i ?
- a) int  
b) double  
c) object  
d) byte
- viii) Which one of the following is a valid declaration of an applet?  
a) Public class MyApplet extends java.applet.Applet {  
b) Public Applet MyApplet {  
c) Public class MyApplet extends applet implements Runnable {  
d) Abstract class MyApplet extends applet implements Runnable {  
e) Class MyApplet implements Applet {
- ix) Which of the options matches the following line:  
a) method  
b) inheritance  
c) message  
d) polymorphism
- x) Relation name aggregation means  
a) association between two logically unrelated classes  
b) inheritance  
c) Part – of  
d) none of these

### Short Answer Type Questions

2. Differentiate between the following:
  - a. Abstract class and interface
  - b. Static and final keywords
  - c. Method overloading and method overriding
  - d. instant variable and class variable
  - e. Object and object reference
3. Discuss Applet life-cycle indicating the functions.
4. What is JVM? What do you mean by Java is a platform independent language?
5. a) Why do we overload a constructor? Explain  
b) Explain what will be the output of the following code with justification:  

```
public class test {
    public static void main (string args []) {
```

```

        B b = new b (10);
        int c = b.print (20);
    }
}
class A {
    private int a;
    public A (int a1) {
        a = a1;
    }
    public void print (int data) {
        System.out.println ("Result:" + data);
    }
}

class B extends A {
    public B (int b1) {
        super (b1);
    }
    public int print (int data) {
        System.out.println ("result:" + data);
        return data;
    }
}

```

6. What is the base class of Error and Exception? Differentiate between Error and Exception.

### Long Answer Type Questions

7. a) Differentiate between procedural oriented programming and object oriented programming.  
 b) Why Java is called a 'strongly typed' language?  
 c) Differentiate between 'up casting' and 'down casting' with suitable examples.  
 d) What does the super keyword do?

8.
  - a) What is multi-threading?
  - b) Write a program which can run a main thread and a child thread simultaneously.
  - c) Give a method that does not declare any exception. Can we override that method in a subclass to throw an exception?
9.
  - a) What are Java “thread” and “monitor” ?
  - b) Distinguish between “dynamic binding” and “Message passing”.
  - c) What is “Template” and “Package” with example.
10.
  - a) Describe different forms of inheritance with examples.
  - b) Why Java does not support multiple inheritance?
  - c) What is the difference between interface & abstract class? Implement Interface with a sample code.
  - d) Distinguish between ‘Data Abstraction and ‘Encapsulation’.