MCQ (Core Java)

1) void start() {

```
A a = new A();
B b = new B();
a.s(b);
b = null; /* Line 5 */
a = null;  /* Line 6 */
System.out.println("start completed"); /* Line 7 */
```

}

When is the B object, created in line 3, eligible for garbage collection?

a.after line 5

b.after line 6

c.after line 7

d.There is no way to be absolutely certain.

2) class HappyGarbage01

{

```
public static void main(String args[])
{
    HappyGarbage01 h = new HappyGarbage01();
    h.methodA(); /* Line 6 */
}
Object methodA()
{
    Object obj1 = new Object();
    Object [] obj2 = new Object[1];
    obj2[0] = obj1;
    obj1 = null;
    return obj2[0];
```

```
    }
}
```

Where will be the most chance of the garbage collector being invoked?

a) After line 9
b) After line 10
c) After line 11
d) Garbage collector never invoked in methodA()

3)
```
class Bar { }
class Test
{
    Bar doBar()
    {
        Bar b = new Bar(); /* Line 6 */
        return b; /* Line 7 */
    }
    public static void main (String args[])
    {
        Test t = new Test();  /* Line 11 */
        Bar newBar = t.doBar();  /* Line 12 */
        System.out.println("newBar");
        newBar = new Bar(); /* Line 14 */
        System.out.println("finishing"); /* Line 15 */
    }
}
```

At what point is the Bar object, created on line 6, eligible for garbage collection?

a) after line 12
b) after line 14
c) after line 7, when doBar() completes
d) after line 15, when main() completes

4) class Test

```
{
   private Demo d;
   void start()
   {
      d = new Demo();
      this.takeDemo(d); /* Line 7 */
   } /* Line 8 */
   void takeDemo(Demo demo)
   {
      demo = null;
      demo = new Demo();
   }
}
```

When is the Demo object eligible for garbage collection?

a) After line 7
b) After line 8
c) After the start() method completes
d) When the instance running this code is made eligible for garbage collection.

5) public class X

```
{
   public static void main(String [] args)
   {
      X x = new X();
      X x2 = m1(x); /* Line 6 */
      X x4 = new X();
      x2 = x4; /* Line 8 */
```

```
    doComplexStuff();
  }
  static X m1(X mx)
  {
    mx = new X();
    return mx;
  }
}
```

After line 8 runs. how many objects are eligible for garbage collection?

a) 0
b) 1
c) 2
d) 3

6)

```
public Object m()
{
  Object o = new Float(3.14F);
  Object [] oa = new Object[l];
  oa[0] = o; /* Line 5 */
  o = null;  /* Line 6 */
  oa[0] = null; /* Line 7 */
  return o; /* Line 8 */
}
```

When is the Float object, created in line 3, eligible for garbage collection?

a) just after line 5
b) just after line 6
c) just after line 7
d) just after line 8

7.

```
class X2
{
   public X2 x;
   public static void main(String [] args)
   {
      X2 x2 = new X2();  /* Line 6 */
      X2 x3 = new X2();  /* Line 7 */
      x2.x = x3;
      x3.x = x2;
      x2 = new X2();
      x3 = x2; /* Line 11 */
      doComplexStuff();
   }
}
```

after line 11 runs, how many objects are eligible for garbage collection?

a) 0
b) 1
c) 2
d) 3

8) What allows the programmer to destroy an object x?

a) x.delete()
b) x.finalize()
c) Runtime.getRuntime().gc()
d) Only the garbage collection system can destroy an object.

9) public class Outer

```
{
   public void someOuterMethod()
   {
```

```
    //Line 5
  }
  public class Inner { }

  public static void main(String[] argv)
  {
    Outer ot = new Outer();
    //Line 10
  }
}
```

Which of the following code fragments inserted, will allow to compile?

a) new Inner(); //At line 5
b) new Inner(); //At line 10
c) new ot.Inner(); //At line 10
d) new Outer.Inner(); //At line 10

10)
```
interface Base
{
  boolean m1 ();
  byte m2(short s);
}
```

which two code fragments will compile?

```
interface Base2 implements Base {}
abstract class Class2 extends Base
{ public boolean m1(){ return true; }}
abstract class Class2 implements Base {}
abstract class Class2 implements Base
{ public boolean m1(){ return (7 > 4); }}
abstract class Class2 implements Base
{ protected boolean m1(){ return (5 > 7) }}
```

a) 1 and 2

b) 2 and 3
c) 3 and 4
d) 1 and 5

11)

Which three form part of correct array declarations?

public int a [ ]

static int [ ] a

public [ ] int a

private int a [3]

private int [3] a [ ]

public final int [ ] a

a) 1, 3, 4
b) 2, 4, 5
c) 1, 2, 6
d) 2, 5, 6

12)

public class Test { }

What is the prototype of the default constructor?

a) Test( )
b) Test(void)
c) public Test( )
d) public Test(void)

13) Which cause a compiler error?

a) int[ ] scores = {3, 5, 7};
b) int [ ][ ] scores = {2,7,6}, {9,3,45};
c) String cats[ ] = {"Fluffy", "Spot", "Zeus"};
d) boolean results[ ] = new boolean [] {true, false, true};
e) Integer results[ ] = {new Integer(3), new Integer(5), new Integer(8)};

14)

Which three are valid method signatures in an interface?

private int getArea();

public float getVol(float x);

public void main(String [] args);

public static void main(String [] args);

boolean setFlag(Boolean [] test);

a) 1 and 2
b) 2, 3 and 5
c) 3, 4, and 5
d) 2 and 4

15) What is the widest valid returnType for methodA in line 3?

```
public class ReturnIt
{
   returnType methodA(byte x, double y) /* Line 3 */
   {
      return (long)x / y * 2;
   }
}
```

a) int
b) byte
c) long
d) double

16) class A

```
{
   protected int method1(int a, int b)
   {
      return 0;
   }
}
```

Which is valid in a class that extends class A?

a) public int method1(int a, int b) {return 0; }
b) private int method1(int a, int b) { return 0; }
c) public short method1(int a, int b) { return 0; }
d) static protected int method1(int a, int b) { return 0; }

17) /* Missing Statement ? */

```
public class foo
{
   public static void main(String[]args)throws Exception
   {
      java.io.PrintWriter out = new java.io.PrintWriter();
      new java.io.OutputStreamWriter(System.out,true);
      out.println("Hello");
   }
}
```

What line of code should replace the missing statement to make this program compile?

a) No statement required.
b) import java.io.*;
c) include java.io.*;
d) import java.io.PrintWriter;

18) What will be the output of the program?

```
public class Foo
{
   public static void main(String[] args)
   {
      try
      {
         return;
      }
      finally
      {
```

```
        System.out.println( "Finally" );
      }
   }
}
```

a) Finally
b) Compilation fails.
c) The code runs with no output.
d) An exception is thrown at runtime.

19)

What will be the output of the program?

```
try
{
   int x = 0;
   int y = 5 / x;
}
catch (Exception e)
{
   System.out.println("Exception");
}
catch (ArithmeticException ae)
{
   System.out.println(" Arithmetic Exception");
}
System.out.println("finished");
```

a) finished
b) Exception
c) Compilation fails.
d) Arithmetic Exception

20)

What will be the output of the program?

```
public class X
{
   public static void main(String [] args)
   {
      try
      {
         badMethod();
         System.out.print("A");
      }
      catch (Exception ex)
      {
         System.out.print("B");
      }
      finally
      {
         System.out.print("C");
      }
      System.out.print("D");
   }
   public static void badMethod()
   {
      throw new Error(); /* Line 22 */
   }
}
```

a) ABCD
b) Compilation fails.
c) C is printed before exiting with an error message.
d) BC is printed before exiting with an error message.

21)

What will be the output of the program?

```
public class X
{
   public static void main(String [] args)
   {
      try
      {
         badMethod();
         System.out.print("A");
      }
      catch (RuntimeException ex) /* Line 10 */
      {
         System.out.print("B");
      }
      catch (Exception ex1)
      {
         System.out.print("C");
      }
      finally
      {
         System.out.print("D");
      }
      System.out.print("E");
   }
   public static void badMethod()
   {
      throw new RuntimeException();
   }
}
```

a) BD
b) BCD
c) BDE
d) BCDE

22)

What will be the output of the program?

```
public class RTExcept
{
   public static void throwit ()
   {
      System.out.print("throwit ");
      throw new RuntimeException();
   }
   public static void main(String [] args)
   {
      try
      {
         System.out.print("hello ");
         throwit();
      }
      catch (Exception re )
      {
         System.out.print("caught ");
      }
      finally
      {
         System.out.print("finally ");
      }
      System.out.println("after ");
   }
}
```

a) hello throwit caught
b) Compilation fails
c) hello throwit RuntimeException caught after
d) hello throwit caught finally after

23) public class Myfile

```
{
   public static void main (String[] args)
   {
      String biz = args[1];
      String baz = args[2];
      String rip = args[3];
      System.out.println("Arg is " + rip);
   }
}
```

Select how you would start the program to cause it to print: Arg is 2

a) java Myfile 222
b) java Myfile 1 2 2 3 4
c) java Myfile 1 3 2 2
d) java Myfile 0 1 2 3

24)

```
public void foo( boolean a, boolean b)
{
   if( a )
   {
      System.out.println("A"); /* Line 5 */
   }
   else if(a && b) /* Line 7 */
   {
      System.out.println( "A && B");
   }
```

```
    else /* Line 11 */
    {
       if ( !b )
       {
          System.out.println( "notB") ;
       }
       else
       {
          System.out.println( "ELSE" ) ;
       }
    }
}
```

a) If a is true and b is true then the output is "A && B"
b) If a is true and b is false then the output is "notB"
c) If a is false and b is true then the output is "ELSE"
d) If a is false and b is false then the output is "ELSE"

25)

```
switch(x)
{
   default:
      System.out.println("Hello");
}
```

Which two are acceptable types for x?

byte

long

char

float

Short

Long

a) 1 and 3
b) 2 and 4
c) 3 and 5
d) 4 and 6

26)

```
public void test(int x)
{
   int odd = 1;
   if(odd) /* Line 4 */
   {
      System.out.println("odd");
   }
   else
   {
      System.out.println("even");
   }
}
```

Which statement is true?

a) Compilation fails.
b) "odd" will always be output.
c) "even" will always be output.
d) "odd" will be output for odd values of x, and "even" for even values.

27)

```
public class While
{
   public void loop()
   {
      int x= 0;
      while ( 1 ) /* Line 6 */
      {
         System.out.print("x plus one is " + (x + 1)); /* Line 8 */
```

```
    }
  }
}
```

Which statement is true?

a) There is a syntax error on line 1.
b) There are syntax errors on lines 1 and 6.
c) There are syntax errors on lines 1, 6, and 8.
d) There is a syntax error on line 6.

28)

```
public void foo( boolean a, boolean b)
{
  if( a )
  {
    System.out.println("A"); /* Line 5 */
  }
  else if(a && b) /* Line 7 */
  {
    System.out.println( "A && B");
  }
  else /* Line 11 */
  {
    if ( !b )
    {
      System.out.println( "notB") ;
    }
    else
    {
      System.out.println( "ELSE" ) ;
    }
  }
```

}

a) If a is true and b is true then the output is "A && B"
b) If a is true and b is false then the output is "notB"
c) If a is false and b is true then the output is "ELSE"
d) If a is false and b is false then the output is "ELSE"

29)

```
switch(x)
{
   default:
      System.out.println("Hello");
}
```

Which two are acceptable types for x?

byte

long

char

float

Short

Long

a) 1 and 3
b) 2 and 4
c) 3 and 5
d) 4 and 6

A

30)

```
public void test(int x)
{
   int odd = 1;
   if(odd) /* Line 4 */
   {
      System.out.println("odd");
   }
```

```
    else
    {
        System.out.println("even");
    }
}
```

Which statement is true?

a) Compilation fails.
b) "odd" will always be output.
c) "even" will always be output.
d) "odd" will be output for odd values of x, and "even" for even values.

31)

```
public class While
{
    public void loop()
    {
        int x= 0;
        while ( 1 ) /* Line 6 */
        {
            System.out.print("x plus one is " + (x + 1)); /* Line 8 */
        }
    }
}
```

Which statement is true?

a) There is a syntax error on line 1.
b) There are syntax errors on lines 1 and 6.
c) There are syntax errors on lines 1, 6, and 8.
d) There is a syntax error on line 6.