Multiple choice question 1

```
class Main
{
  public static void main( String args[] )
  {
    String mesg = "Answer is ";
    int sum = 1 + 2;
    System.out.println( mesg + sum );
  }
}
```

What is the effect of executing the class Main above (`java Main`).

```
(a) Prints 3

(b) Prints Answer is 3

(c) Prints Answer is 1 + 2

(d) Prints mesg + sum
```

Multiple choice question 2

```
class Main
{
  public static void main( String args[] )
  {
    int this_number = 3;
    int that_number;
    while ( this_number < 10 )
    {
       that_number = this_number;
       this_number = this_number + that_number / 2;
    }
    System.out.println( "Answer is " + this_number );
  }
}
```

What is the effect of executing the class Main above (`java Main`)

```
(a) Prints Answer is 12

(b) Prints Answer is 13

(c) Prints Answer is 14

(d) Prints Answer is 15
```

Multiple choice question 3

```
class ProductList
{
  private int the_size;

  ProductList( int size )
  {
     the_size = size;
  }
  int number()
  {
    return 0;
  }
}

class Main
{
  public static void main( String args[] )
  {
    ProductList pl = new ProductList(6);
    int         n  = pl.number();
  }
}
```

What is the effect of executing the class Main above (`java Main`)

a) An instance of ProductList is sent the message number.

b) An instance of ProductList is constructed with a value of 6
   and the message number is sent to the constructed object.

c) As the message number is only bound to the method number at run-time
   the effect depends on how tha application is run.

d) As the method main is static no code is called.

Multiple choice question 4

```
class Values
{
  int the_value;

  public Values()
  {
    // code for constructor
  }

}


class Main
{
  public static void main( String args[] )
  {
    Values the_values[] = new Values[3];
  }
}
```

What is the effect of executing the class Main above (`java Main`) the constructor for class `Values` is called:

(a) 0 times.

(b) 1 times.

(c) 2 times.

(d) 3 times.

Multiple choice question 5

```
class Example
{
  public    void one()   {}
  protected void three() {}
  private   void two()   {}
}
```

To an instance of the class `Example` can be sent the following messages(s).

(a) one, two, and three.

(b) one and two.

(c) one.

(d) two.

Multiple choice question 6

```
class C
{
  public static void mystery1( Account a, double m )
  {
     a.deposit( m );
  }

  public static void mystery2( double m )
  {
     m = m * 2.0;
  }
}

class Account
{
  private double the_balance     = 0.0d;  //Balance of account
  private double the_min_balance = 0.0d;  //Minimum bal (Overdraft)

  public double account_balance()
  {
    return the_balance;
  }

  public double withdraw( final double money )
  {
    if ( the_balance - money >= the_min_balance )
    {
      the_balance = the_balance - money;
      return money;
    } else {
      return 0.00;
    }
  }

  public void deposit( final double money )
  {
    the_balance = the_balance + money;
  }

  public void set_min_balance( final double money )
  {
    the_min_balance = money;
  }
}

class Main
{
  public static void main( String args[] )
  {
    Account mike    = new Account();
    double money    = 10.00;
    mike.deposit( 100.00 );
    C.mystery2( money );
    C.mystery1( mike, money );
    System.out.println( "Mike's Balance      = " + mike.account_balance() );
  }
}
```

When executed (Java Main) the above code will print:

```
(a)  Mike's Balance      = 100.0

(b)  Mike's Balance      = 110.0

(c)  Mike's Balance      = 120.0

(d)  Mike's Balance      = 130.0
```

Multiple choice question 7

Which of the following statements is true

```
(a) A Java program may be run on any machine.

(b) A Java program may only run on a machine with a word size of at least 32 bits.

(c) Because a Java program is interpreted it will run faster than a normal program.

(d) The garbage collector is used to get rid of program errors.
```

Multiple choice question 8

Which of the following statements is false?

```
(a) A class may extend several classes (Multiple inheritance) forming a new class.

(b) An object is always passed by reference to a method.

(c) A classes static method may be called without reference to an
    instance of the class.

(d) An array is always passed by reference to a method.
```

Multiple choice question 9

Which of the following statements is false?

```
(a) An instance of an int is the same size on all machines that a java program
    is run on.

(b) The operator == should not be used to compare strings.

(c) You can override a base class method in a derived class.

(d) You must define a constructor in a class.
```

Multiple choice question 10

Which of the following statements is true?

```
(a) All operators in java may be overloaded.

(b) A constructor is inherited.

(c) From a constructor you can call the classes superclass constructor.

(d) A class must have a public constructor.
```