CS/BCA/SEP.SUPPLE/SEM-6/BCAE-602B/2012

2012
OBJECT ORIENTED PROGRAMMING WITH JAVA

Time Allotted : 3 Hours   *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1.   Choose the correct alternatives for the following :

$10 \times 1 = 10$

   i)   if(check(storeNum)!=null){ }

   Referring to the above, what datatype could be returned by method check() ?

   a)   Boolean   b)   string

   c)   char   d)   byte.

   ii)   int j;

   ```
   for(int i=0;i<14;i++){
           if(i<10){
                   j=2+i;
           }
           System.out.println("j:"+j+"i:"+i);
   }
   ```

   What is wrong with the above code ?

   a)   Integer 'j' is not initialized

   b)   nothing

   c)   you cannot declare integer I inside the for-loop declaration

   d)   you cannot print integer values without converting them to strings.

iii) Which access modifier is used to restrict the methods scope to itself and still allows other classes to subclass that class ?

    a)   private   b)   final

    c)   protected   d)   public.

iv) What do the 'public' and 'private' keyboards related to ?

    a)   typing   b)   garbage collection

    c)   polymorphism   d)   access restriction.

v) An interface can define only

    a)   abstract class

    b)   final field

    c)   abstract method

    d)   abstract method and final field.

vi) The immediate superclass of the Applet class is

    a)   Panel   b)   Object

    c)   Interface   d)   Window.

vii) How many default constructors can be had in a class ?

    a)   1   b)   4

    c)   0   d)   2.

viii) In Java applet, start() method may be invoked

    a)   only once   b)   twice

    c)   many times   d)   none of these.

ix) Multiple inheritance is implemented in Java by

    a)   extending two or more classes

    b)   extending one class and implementing one or more interfaces

    c)   implementing two or more interfaces

    d)   all of these.

x) The ability to declare different methods with the same name in a class is known as

    a)   Overriding   b)   Overloading

    c)   Recursion   d)   None of these.

GROUP – B

(Short Answer Type Questions)

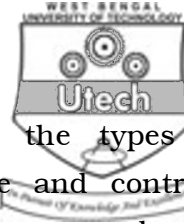Answer any *three* of the following.   3 × 5 = 15

2. Why main () method in Java is declared as static ? Why is a user defined applet class declared as public ? $2\frac{1}{2} + 2\frac{1}{2}$

3. What is JVM ? "Java is platform-independent language." Explain.   2 + 3

4. What is the difference between an interface and an abstract class ?   5

5. What is a thread ? What are the two methods by which we may stop threads ?   2 + 3

6. How can programmer define a class that cannot be inherited ? Give an example.   3 + 2

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

7. Describe applet life cycle. Write a program to show all the steps of applet life cycle. What are the different attributes of applet tag ? What is remote applet ?   3 + 5 + 5 + 2

8. a) "Programmer can call a constructor from another constructor."— Explain with an example.

    b) Write a GUI program in Java that will have two buttons viz., RED and GREEN. If user clicks on RED button the background of the GUI will be painted in red or if user clicks on GREEN button the background of the GUI will be painted green.   5 + 10

9. What is polymorphism ? What are all the types of polymorphism present in Java ? Compare and contrast overloading and overriding methods with proper examples.

2 + 5 + 8

10. a) What is AWT ? Differentiate between component class and container class.

b) What is an event ? What is event handling ? What is the role of event listeners in this regard ?

c) Show by writing a complete code along with the output how multiple inheritance is implemented in Java. Explain static import. (2 + 2) + (1 + 1 + 2) + (6 + 1)

11. Write short notes on any *three* of the following : 3 × 5

a) Interface

b) Package

c) Final, finally and finalize keywords

d) Container class

e) Exception handler.