



BRAINWARE UNIVERSITY

Course – MAMW

OOPS Programming through Java (MMW301B)

(Semester –3)

Time allotted:3 Hours

Full Marks : 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Questions)

10 x 1 = 10

1. *Choose the correct alternative from the following*

(i) Which of the following is FALSE about arrays on Java?

- | | |
|--|--|
| a. A java array is always an object | b. Length of an array can be changed after creation of array |
| c. Arrays in Java are always allocated on heap | d. None of these |

(ii) The expected signature of the main method is public static void main (). What happens if we make a mistake and forget to put the static keyword?

- | | |
|--|---|
| a. The JVM issues an error saying that main method should be declared static | b. The JVM successfully invokes the main method |
| c. The JVM fails at runtime with NoSuchMethodError | d. None of these |

(iii) What is the output of the following program,

```
abstract class demo
{
public int a;
demo()
{
a = 10;
}
abstract public void set();
abstract final public void get();
}
```

```

class Test extends demo
{
public void set(int a)
{
this.a = a;
}
final public void get()
{
System.out.println("a = " + a);
}
public static void main(String[] args)
{
Test obj = new Test();
obj.set(20);
obj.get();
}
}

```

- a. a=10 b. a=20
c. a=5 d. Compilation error
- (iv) The extension of a Java source code file is,
a. .java b. .class
c. .obj d. .exe
- (v) What is the output of the following program,

```

class Test {
    public static void main(String args[]) {
        int arr[2];
        System.out.println(arr[0]);
        System.out.println(arr[1]);
    }
}

```

a. 0 b. Garbage value
0 Garbage value
c. Compilation d. Exception
- (vi) What is the output of following Java program,

```

class Main {
    public static void main(String args[]) {
        try {
            throw 10;
        }
        catch(int e) {
            System.out.println("Got the Exception " + e);
        }
    }
}

```

- a. Got the exception 10
b. Got the Exception 0
c. Compilation error
d. None of these
- (vii) If we don't write any default constructor, then
a. Java will incorporate a default constructor
b. Compilation error
c. Run-time error
d. None of these
- (viii) In which area of memory, the system stores parameters and local variables whenever a method is invoked?
a. Stack
b. Heap
c. Array
d. None of these
- (ix) A class member declared protected becomes member of subclass of which type?
a. public member
b. private member
c. protected member
d. static member
- (x) What is the process of defining a method in subclass having same name & type signature as a method in its superclass?
a. Method overloading
b. Method overriding
c. Method hiding
d. None of the mentioned

Group – B

(Short Answer Type Questions)

3 x 5 = 15

Answer any *three* from the following,

2. a) Describe public and protected access qualifier for a class in respect of a package.
b) Write steps to create a executable jar file in Java. [2+3]
3. Write Java Code to trap a button click event and print a message "Hello World". [5]
4. Define a private constructor in a class and discuss its effect in the respective class. [1+4]
5. What is a Thread? Write a simple Java Code to explain it. [2+3]
6. a) Compare Interface with an Abstract Class.
b) Can an Abstract Class inherit an Interface? If yes, write suitable Java Code to implement it. [2+3]

Group – C

(Long Answer Type Questions)

3x 15= 45

Answer any *three* from the following

7. (a) What is Polymorphism? Write code to exemplify different Polymorphism methodology using Interface. [2+8]
 (b) Briefly describe the different stages of Applet life cycle. [5]
8. (a) What is Thread Synchronization? [5]
 (b) Write code to describe Thread Synchronization using join () method. [10]
9. (a) Define try block and catch block. [5]
 (b) What is the difference between multiprocessing and multithreading? [5]
 (c) What is the difference between suspending and stopping a thread? [5]
10. (a) Explain the client / server relationship as applied to Java applets. [5]
 (b) Why do applet classes need to be declared as public? [2]
 (c) What is finally block? When and how is it used? Give a suitable example. [2+2+4]
11. (a) Write a recursive Java function to compute nth Fibonacci term [4]
 (b) Compare between static and nonstatic data member with suitable Java code [7]
 (c) Write short notes on Enumerated data type. [4]