



**MAULANA ABUL KALAM AZAD UNIVERSITY OF  
TECHNOLOGY, WEST BENGAL**

**Paper Code : BCAE-602B**

**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 any *ten* of the following : 10 × 1 = 10
- i) Which of the following may be part of a class definition ?
    - a) Instance variables
    - b) Instance methods
    - c) Constructors
    - d) All of these.
  - ii) How many Default Constructors can a class have ?
    - a) One
    - b) Two
    - c) More than two
    - d) None of these.
  - iii) An exception is
    - a) a run time error
    - b) a compile time error
    - c) a syntactical error
    - d) none of these.
  - iv) Full form of JVM is
    - a) Java Visual Machine
    - b) Java Virtual Machine
    - c) Java Variable Management
    - d) None of these.

v) Consider the following program :

```
import java.io.* ;  
public class TestClass{  
    public static void main (String[ ] args) {  
        // Method Body  
    }  
}
```

What should be the name of the program ?

- a) TestClass.class      b) TestClass.java
- c) TestClass.obj      d) None of these.

vi) Consider the following statements :

```
int a=5, b=6 ;  
int y=(a < b) ? (b --) : (a --) ;
```

What should be the value of  $y$  after the execution of the above statements ?

- a) 5      b) 6
- c) Compile time error      d) Run time error.

vii) JRE stands for

- a) Java Runtime Environment
- b) Java Resource Environment
- c) Java Runtime Entity
- d) None of these.

viii) What invokes a thread's run( ) method ?

- a) JVM invokes the thread's run( ) method when the thread is initially executed
- b) Main application running the thread
- c) start( ) method of the thread class
- d) None of these.

ix) When does the finally block get executed ?

- a) Always when try block get executed, no matter exception occurred or not
- b) Only when exception occurs in try block code.
- c) Always when a method get executed, no matter exception occurred or not
- d) Always when a try block get executed, if exception do not occur.



**GROUP - C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) What is a package ? Explain the different access controls for packages in Java.  
b) What is Unicode ? Explain the advantage of using Unicode.  
c) Explain operators with reference to Java. Explain two dimensional array with example.  
 $(2 + 3) + 2 + (3 + 5)$
- ~~8.~~ a) Briefly explain the Applet life cycle.  
b) What are the main differences between Java application & Java applet ?  
c) Write an applet program where you may input two numbers and get the result of the product of those two numbers.  $6 + 4 + 5$
9. a) Explain the concept of JVM.  
b) Explain abstraction of object-oriented programming.  
c) Write a program in Java to check whether a number (taken as user input) is an Armstrong number or not.  $5 + 5 + 5$
10. a) What is the difference method overloading and method overriding ?  
b) Write a program in Java to print the Fibonacci series up to the limit taken as user input.  
c) Write a program in Java to input a number and check whether it is a perfect number or not.  $5 + 5 + 5$
11. Write short notes on any *three* of the following :  $3 \times 5$   
a) Abstract class  
b) OOP principles  
c) Interface  
d) ByteCode  
e) Method Overriding.