



Name: Roll No.:

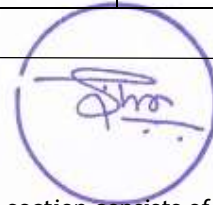
Branch: Signature of Invigilator:

Semester: IVth / VIth Date: 30/04/2022 (MORNING)

Subject with Code: CA201 OBJECT ORIENTED PROG. USING JAVA

Marks Obtained	Section A (30)	Section B (20)	Total Marks (50)

INSTRUCTION TO CANDIDATE



1. The booklet (question paper cum answer sheet) consists of two sections. First section consists of MCQs of 30 marks. Candidates may mark the correct answer in the space provided / may also write answers in the answer sheet provided. The Second section of question paper consists of subjective questions of 20 marks. The candidates may write the answers for these questions in the answer sheets provided with the question booklet.
2. The booklet will be distributed to the candidates before 05 minutes of the examination. Candidates should write their roll no. in each page of the booklet.
3. Place the Student ID card, Registration Slip and No Dues Clearance (if applicable) on your desk. All the entries on the cover page must be filled at the specified space.
4. Carrying or using of mobile phone / any electronic gadgets (except regular scientific calculator)/chits are strictly prohibited inside the examination hall as it comes under the category of unfair means.
5. No candidate should be allowed to enter the examination hall later than 10 minutes after the commencement of examination. Candidates are not allowed to go out of the examination hall/room during the first 30 minutes and last 10 minutes of the examination.
6. Write on both side of the leaf and use pens with same ink.
7. The medium of examination is English. Answer book written in language other than English is liable to be rejected.
8. All attached sheets such as graph papers, drawing sheets etc. should be properly folded to the size of the answer book and tagged with the answer book by the candidate at least 05 minutes before the end of examination.
9. The door of examination hall will be closed 10 minutes before the end of examination. Do not leave the examination hall until the invigilators instruct you to do so.
10. Always maintain the highest level of integrity. Remember you are a BITian.
11. Candidates need to submit the question paper cum answer sheets before leaving the examination hall.

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: B. Tech
BRANCH: ECE, EEE, PE, CE

SEMESTER :IV,VI
SESSION :SP/2022

SUBJECT: CA201 Object Oriented Programming Using Java
TIME: 02.00 Hrs.

FULL MARKS: 50

INSTRUCTIONS:

- 1. This Paper contains two sections; Section 1 contains 30 MCQ questions and Section 2 contains 4 short answers questions.**
- 2. There is an alternative question with each short answer question. Candidate may answer any one.**
- 3. Candidates may attempt ALL questions of 50 marks.**
- 4. The missing data, if any, may be assumed suitably.**
- 5. Before attempting the question paper, be sure that you have got the correct question paper.**
- 6. Tables/Data hand book/Graph paper etc. to be upload for the candidates in assignment section.**

Section 1

This Section contains 30 questions and every question contains 1 Marks (30*1= 30 Marks)

1. Multiple-choice questions:

- i. Which component is used to compile, debug and execute java program?
 - a) JVM
 - b) JRE
 - c) JIT
 - d) JDK

- ii. Which concept of Java is achieved by combining methods and attribute into a class?
 - a) Abstraction
 - b) Polymorphism
 - c) Encapsulation
 - d) Inheritance

- iii. Which of the statement is incorrect?
 - a) Applets do not require a main() method at all
 - b) There can be only one main() method in a program
 - c) main() method must be made public
 - d) Every class must contain a main() method

- iv. Which of the following is smallest size integer data type?
 - a) short
 - b) int
 - c) byte
 - d) long

- v. Only one memory location is created for each class variable
- True
 - False
- vi. A variable declared as final is a
- Static Variable
 - Symbolic Variable
 - Null variable
 - Symbolic Constant
- vii. Which of these cannot be used for a variable name in Java?
- Identifiers
 - Keywords
 - Identifiers and keywords
 - None of the above
- viii. What will be the error in the following Java code?
- ```
byte b = 50;
b = b * 50;
```
- b cannot contain value 50, limited by its range
  - operator has converted b \* 50 into int, which cannot be converted to byte without casting
  - b cannot contain value 50
  - No error in this code
- ix. An expression involving byte, int, and literal numbers is promoted to which of these?
- int
  - long
  - byte
  - float
- x. Which one is a valid declaration of a boolean?
- boolean b1 = 1;
  - boolean b2 = 'false';
  - boolean b3 = false;
  - boolean b4 = 'true'
- xi. What will be the output of the following Java program?
- ```
class array_output {
public static void main(String args[])
{
    chararray_variable [] = new char[5];
    for (int i = 0; i < 5; ++i) {
        array_variable[i] = 'i';
        System.out.print(array_variable[i] + " ");
        i++;
    }
}
```

```
}  
}
```

- a) 0 1 2 3 4
 - b) i i i i
 - c) l j k l m
 - d) None of these
- xii. Class is an abstract data type.
- a) True
 - b) False
- xiii. Select the valid statement.
- a) `char[] ch = new char(5);`
 - b) `char[] ch = new char[5];`
 - c) `char[] ch = new char();`
 - d) `char[] ch = new char[];`
- xiv. Java program may contain _____ class definitions.
- a) Single
 - b) double
 - c) multiple
 - d) None of the above
- xv. Which of the following is a valid declaration of an object of class Box?
- a) `obj = new Box();`
 - b) `new Box obj;`
 - c) `Box obj = new Box();`
 - d) `Box obj = new Box;`
- xvi. What will be the output of the following Java code?
- ```
class increment {
 public static void main(String args[])
 {
 int g = 3;
 System.out.print(++g * 8);
 }
}
```
- a) 25
  - b) 24
  - c) 32
  - d) 33
- xvii. Given a class named Book, which one of these is a valid constructor declaration for the class?
- a) `Book(Book b) { }`
  - b) `public Book(Book b) { }`
  - c) `private final Book() { }`
  - d) `void Book() { }`

- xviii. To prevent any method from overriding, we declare the method as
- a) static
  - b) const
  - c) final
  - d) abstract
- xix. Abstract class cannot have a constructor.
- a) True
  - b) False
- xx. The concept of multiple inheritances is implemented in Java by
- I. Extending two or more classes.
  - II. Extending one class and implementing one or more interfaces.
  - III. Implementing two or more interfaces.
- a) Only II
  - b) I and II
  - c) II and III
  - d) Only I
  - e) Only III
- xxi. A subclass defining a method that has same signature and structure as that of a method in in the super class is called \_\_\_\_\_
- a) method overloading
  - b) method overriding
  - c) method calling
  - d) method overwriting
- xxii. When there is one super class and more than one sub classes the inheritance is called .....
- a) multiple inheritance
  - b) multilevel inheritance
  - c) hierarchical inheritance
  - d) single inheritance
- xxiii. When a class is declared final it can't be \_\_\_\_\_
- a) Overloaded
  - b) Overridden
  - c) inherited
  - d) instantiated
- xxiv. In which process, a local variable has the same name as one of the instance variables?
- a) Serialization
  - b) Variable Shadowing
  - c) Abstraction
  - d) Multi-threading

- xxv. Which of the following exceptions is a checked exception?
- a) ArithmeticException.
  - b) IOException.
  - c) RuntimeException.
  - d) InputMismatchException.
- xxvi. Identify the corrected definition of a package.
- a) A package is a collection of editing tools
  - b) A package is a collection of classes
  - c) A package is a collection of classes and interfaces
  - d) A package is a collection of interfaces
- xxvii. Output of Math.floor(3.6)?
- a) 3
  - b) 3.0
  - c) 4
  - d) 4.0
- xxviii. When an array is passed to a method, what does the method receive?
- a) The reference of the array
  - b) A copy of the array
  - c) Length of the array
  - d) Copy of first element
- xxix. Which of these methods can be used to output a string in an applet?
- a) display()
  - b) print()
  - c) drawString()
  - d) transient()
- xxx. In byte stream I/O, a single read/write operation performs \_\_\_\_.
- a) Two bytes read/write at a time.
  - b) Eight bytes read/write at a time.
  - c) One byte read/write at a time.
  - d) Five bytes read/ write at a time.

## **Section 2**

**This Section contains 4 questions and every question contains 5 Marks (4\*5= 20 Marks)**

2. Explain the concept of platform independence and portability with respect to Java language.

**Or**

List the major differences between procedure oriented programming and object oriented programming.

3. What is Exception? What is the difference between throw and throws keyword? Write the purpose of finally block in Java?

**Or**

Write a program to check whether the number is a palindrome or not?

4. What are constructors? What is the difference between constructor and copy constructor?

**Or**

What is the need of 'super' and 'this' keywords in java? Explain with example.

5. List the differences between -

- a) Abstract class and interface
- b) String and StringBuffer class

**Or**

What is an applet? Describe the life cycle of applet.



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