 

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU - 27**

**B.C. A - II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2022**

**(Examination conducted in JULY 2022)**

**CA 2221 - Object Oriented Programming with Java**

Time- 2 hrs Max Marks-60

This question paper contains 4 printed pages and three parts

**Part A**

**I Answer all of the following (10\*1=10)**

1. Evaluate the following expression if the value of x=2, y=3 and z=1.

v=x+ --z+ y++ +y

1. 9 b) 10 c) 8 b) none of the above
2. Variable that is declared outside the method definition.  
   a. Class instant  
   b. Class variable  
   **c. Instance variable**  
   d. Local variable
3. **i) Name the package that contains Scanner class.**

**ii**) **Which unit of the class gets called, when the object of the class is created?**

**a)** java.util and Constructor

b) java.io and Constructor

1. java.util and instance object
2. java.io and instance object
3. **To prevent any method from overriding, we declare the method as.**
4. static b) const c) final d) abstract
5. **Consider the following class definition:**

public class MyClass {

private int value;  
public void setValue(int i){

/ code / }  
// Other methods…  
}

The method setValue assigns the value of i to the instance field value. What could you write for the implementation of setValue?

1. value = i; b) this.value = I; c) Both a and b d) none of above
2. **What is the output of the following code?**

class eq {   
public static void main(String args[]) {  
String s1 = “Hello”;  
String s2 = new String(s1);  
System.out.println(s1==s2);  
} }

1. true b) false c) 0 d) 1
2. When does Overloading not occur?
3. When more than a single method has the same name, yet different types or number of parameters and different method signature.
4. When more than a single method has the same name, the same signature, but have different numbers of signature.
5. When more than a single method has the same signature, same name, and the same number of parameters have different types.
6. When more than a single method has the same name, the same number and types of parameters, and yet different signatures
7. **Which of the following is not true?**

a) An interface can extend another interface.  
b) A class which is implementing an interface must implement all the methods of the interface.  
c) An interface can implement another interface.  
d) An interface is a solution for multiple inheritance in java.

1. What exception type does the following program throw?  
     
   public class Test {  
     public static void main (String[] args) {  
       System.out.println(1 / 0);  
      } }
2. ArithmeticException
3. ArrayindexOutOfBoundsException
4. StringIndexOutOfBoundsException
5. ClassException
6. Which one of the following is the correct structure to create and run a thread?
7. class MyClass extends Runnable { public void run() { } }
8. class MyClass implements Thread { public void run() { } }
9. class Thread MyClass { public void run() { } }
10. class MyClass extends Thread { public void run() { } }

**Part B**

**II. Answer any five of the following (5\*4=20)**

11.Write a program to input and sort the weight of 5 people using the selection sort technique.

### 12. Which type of member can be accessed by a child class or derived class? Explain with suitable example.

13. Write a program to append and compare two strings in java.

14. In java only a single class can be extended, if there is a need to extend more than one class, how can this be achieved?

15. Design a GUI java AWT to read an employee detail containing empno, ename, designation, salary and calculate DA HRA.

16. What is package? How do you create a package?

17. What is a java bean? Discuss the pros and cons.

**Part C**

**III. Answer any two of the following (2\*15=30)**

#### 18. a)Explain the jump statements available in java to control flow of a program. Give example of each statement.

#### b) **Explain what do you mean by an Abstract class and an Abstract method? With suitable example.** (7+8)

19. Define a class called **Parking Lot**with the following description and write a main () method to create an object of the class and call the above methods with support of single inheritance.

Instance variables/data members:  
int vno — To store the vehicle number.  
int hours — To store the number of hours the vehicle is parked in the parking lot.  
double bill — To store the bill amount.

Member Methods:  
void input () — To input and store the vno and hours.  
void calculate () — To compute the parking charge at the rate of ₹3 for the first hour or part thereof, and ₹1.50 for each additional hour or part thereof.  
void display () — To display the detail.

.20. Explain the usage of following with suitable example.

1. Super and sub class
2. notify() and notifyAll()
3. Any 3 Built in exceptions (5+5+5)