

Note: Objective part is compulsory. Attempt any three questions from subjective part.

Objective Part (Compulsory)

Q.1. Write short answers of the following in 2-3 lines each on your answer sheet.

(2*8)

- i. What are the different types of arguments?
- ii. What is the main difference between overloading and overriding?
- iii. WHAT IS THE difference between multiple and multilevel inheritance?
- iv. Explain the following line used under Java Program
public static void main (String args[])
- v. What is a pure virtual function?
- vi. What are sealed modifiers?
- vii. What is the difference between throw and throws?
- viii. What is the output of the following?

```
class Test
{
    public static void main (String args[])
    {
        System.out.println(20 + 30 + "Javatpoint");
        System.out.println("Javatpoint" + 20 + 30);
    }
}
```

Subjective Part (3*8)

- Q.2. Write a program that shows a constructor passing information about constructor failure to an exception handler. Define class Some Class, which throws an Exception in the constructor. Your program should try to create an object of type Some Class and catch the exception that's thrown from the constructor.
- Q.3. Write a temperature-conversion application that converts from Fahrenheit to Celsius. The Fahrenheit temperature should be entered from the keyboard (via a JTextField). An un-editable Textfield should be used to display the converted temperature when user clicks on conversion button. Use the following formula for the conversion: $Celsius = 5/9 \times (Fahrenheit - 32)$.
- Q.4. Create a constructor for the student class you created. The constructor should initialize each Student's ID number to 9999, his or her points earned to 12, and credit hours to 3 (resulting in a grade point average of 4.0). Write a program that demonstrates that the constructor works by instantiating an object and displaying the initial values.
- Q.5. Write, compile, and test a class that uses the command window to display the following statement about comments: "Program comments are non-executing statements you add to a file for the purpose of documentation." Also include the same statement in three different comments in the class; each comment should use one of the three different methods of including comments in a Java class.
- Q.6. Assume that the population of Mexico is 114 million and that the population increases 1.01 percent annually. Assume that the population of the United States is 312 million and that the population is reduced 0.15 percent annually. Write an application that displays the populations for the two countries every year until the population of Mexico exceeds that of the United States and display the number of years it took.