

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY**Third Semester of B. Tech (CE/CSE) Examination****March 2020****CE251/241 Java Programming****Date: 13.03.2020, Friday****Time: 10.00 a.m. To 01.00 p.m.****Maximum Marks: 70****Instructions:**

1. The question paper comprises two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.

SECTION – I**Q - 1 Answer the following questions.**

- A.** Method overriding is combination of inheritance and polymorphism: True or False [01]
- B.** What are the key elements of java program structure? [02]
- C.** The execution of the following code will print “6”: True or False [02]

```
int result=0;
int condition=1;
do{
    result+=condition;
    if(condition>=3){
        return;
    }
}while(result<=6);
System.out.println(result);
```

- D.** What is constructor? What are the rules for creating constructor in java? [03]
- E.** List various features of Java? Also explain any one feature with example. [03]

Q – 2.A What is function overloading? Demonstrate working of function overloading in Java. [04]**Q – 2.B Answer the following questions [Any Two]. [08]**

- A.** What is Thread? Draw and explain life cycle of thread.
- B.** Differentiate Abstract class and interface with suitable example.
- C.** Compare String with StringBuffer class.

Q - 3 Answer the following questions. [Any Two]. [12]

- A.** Write an interactive program to read the ages of all members of family, stores them in a one-dimensional array, and display the age of the eldest and the youngest persons.
- B.** Consider an example of declaring the examination result. Design three classes: Student, Exam, and Result. The Student class has data members such as those

representing rollNumber, Name, etc. Create the class Exam by inheriting Student class. The Exam class adds fields representing the marks scored in six subjects. Derive Result from the Exam class, and it has its own fields such as total_marks. Write an interactive program to model this relationship.

- C. Implement a class that check whether a given number is prime using Runnable interface.

SECTION – II

Q - 4 Answer the following questions.

- A. What will be the output of following snippet? [01]

```
public class A {
    public static void main(String[] args)
    {
        System.out.println('j' + 'a' + 'v' + 'a');
    }
}
```

- B. What will be the output of following snippet? [01]

```
class Base {
    protected void foo() {}
}
class Derived extends Base {
    void foo() {}
}
public class Main {
    public static void main(String args[]) {
        Derived d = new Derived();
        d.foo();
    }
}
```

- C. What are exceptions and how are they handled in Java? Give an example. [02]

- D. What are wrapper classes? Illustrate them with a suitable example. [03]

- E. What are the three parts of a Lambda Expression? What is the type of Lambda Expression? [04]

- Q – 5.A Write an interactive program that reads a statements from use input and prints how many words it has. [06]

- Q – 5.B Write a program that creates a use-defined class called Students containing members such as student_id, name, semester and subject selected. And then creates many objects of this class and stores them in a LinkedList. [06]

OR

- Q – 5.A Write a program that illustrates the use of Hashtable class for storing and retrieving students records. [06]

- Q – 5.B Write a java program which read source file and destination file name and copy the content of source file to destination file. [06]

Q – 6. Answer the following. [Attempt any Three]

[12]

- A.** Explain following terms with example:
(i) Nested Class (ii) Anonymous Inner Class
- B.** Write a short note on Generic class.
- C.** What are packages in Java? Explain instance of operator with example.
- D.** Explain following keyword with example.
(i) final (ii) super