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**RV COLLEGE OF ENGINEERING®**  
**(An Autonomous Institution affiliated to VTU)**  
**IV Semester B. E. Grade Improvement Examinations No-2020**  
**Computer Science and Engineering**  
**OBJECT ORIENTED PROGRAMMING USING JAVA**

*Time: 03 Hours**Maximum Marks: 100**Instructions to candidates:*

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2, 7 and 8 are compulsory. Answer any one full question from 3 and 4 & one full question from 5 and 6

**PART A**

1	1.1	In object oriented programming, new classes can be defined by extending existing classes. This is an example of _____.	01
	1.2	Predict the output of following program <pre> class Test {     protected int x,y; } class Main {     public static void main(string args [])     {         Test t = new Test();         System.out.println(t.x + " " + + y);     } } </pre>	
	1.3	What is the output of following program <pre> class A {     public int i;     private int j; } class B extends A {     void display ()     {         super.j = super.i + j         System.out.println(super.i + " " + super.j);     } } </pre>	02

	<pre> class inheritance {     public static void main(string args[])     {         B obj = new B();         obj.i = 1;         obj.j = 2;         obj.display ();     } } </pre>	
1.4	The bitwise <i>AND</i> operator is represented by a single ampersand (&) and is surrounded on both sides by _____.	02
1.5	To prevent any method from overriding we declare the method as, _____.	01
1.6	Find the output of the following program <pre> public class testmath {     static int i = 1;     public static void main (string args[])     {         System.out.println(i + " ,");         m(i);         System.out.println(i);     }     public void m(int i)     {         i += 2 ;     } } </pre>	01
1.7	What is the output of the following program <pre> class Bitshift {     public static void main (string args[])     {         int x = 0x80000000;         System.out.println(x + " and ");         x = x &gt; (&gt;&gt; 31);         System.out.print(x);     } } </pre>	02
1.8	Predict the output of following program <pre> class Array {     public static void main (string args[])     {         int array[] = new int [5];         for(int i = 5; i &gt; 0; i --);         array[5 - i] = i;         Arrays.fill(array, 1, 4, 8 );         for(int i = 0; i &lt; 5; i ++);         System.out.print(array[i]);     } } </pre>	02
		02

1.9	Find the output of following program <pre> class Bitset {     public static void main (string args[])     {         Bitset obj = new Bitset (5);         for(int i = 0; i &lt; 5; i ++);         obj.set(i)         obj.clear(2);         System.out.print(obj);     } } </pre>	02
1.10	What is the output of the following program <pre> public class Test extends thread implements runnable {     public void run()     {         System.out.print("GFG");     }     public state void main (string args[]) throws Interrupted Execution     {         Test obj = new Test();         obj.run();         obj.start();     } } </pre>	02
1.11	_____ will happen if two threads of the same priority are called to be processed simultaneously.	01
1.12	Find the output of following program <pre> class output {     public state void main (string args[])     {         StringBuffer S1 = new StringBuffer ("Hello world")         S1.insert(6,"Good");         system.out.print(S1);     } } </pre>	02

### PART B

2	a	Write a java program to implement stack using Array.	08
	b	Write the program to use variable arguments as an input when dealing with method overloading.	08
3	a	Why multiple inheritance is not supported in Java?	04
	b	With a program, explain Runtime polymorphism.	08
	c	What is object class? Mention an 5 object class method in java.	04
OR			

4	a	Define super keyword. Explain with program how super keyword used in real time applications.	11
	b	What is package in Java? Why you should use packages in Java?	05
5	a	What is Exception and exception handling? Write a program to illustrate the following exception: i) Null pointer ii) Number Format iii) File Not Found	08
	b	With an example, Explain throw and throws in Java.	08
		<b>OR</b>	
6	a	With a syntax, Define synchronized in Java. Write a program to implement synchronization in Java with a concept called monitors.	08
	b	Explain Thread priority in multithreading. Write a program to illustrate getpriority() & setpriority()	08
7	a	With a syntax, explain lambda expression. Write a program to perform the basic arithmetic operations using lambda expression.	08
	b	Write a program to find a digit string from the given alphanumeric string using regular expression.	04
	c	Write a program to return the char value at the specified index of the string "Welcome to string handling".	04
8	a	Write a program to illustrate the following i) Get the index of first occurrence of the element in the Array list. ii) Convert Array list to string Array.	08
	b	Write a program to generate a rounded rectangle using JavaEX.	04
	c	Write a program to demonstrate the event handling in JavaEX using the event filters.	04