

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2170309****Date:25/01/2021****Subject Name:Introduction to JAVA & Visual C++****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Define following terms: 1. Coercion 2. Polymorphism 3. Applet	03
	(b) Define constructor with its properties. Can they be overloaded?	04
	(c) Explain in detail the life cycle of a Thread.	07
Q.2	(a) Explain the try-catch statement with one example.	03
	(b) Explain command-line interface.	04
	(c) Write an application that executes following mentioned threads. 1. Displays "HELLO" every 2000 milliseconds 2. Displays "WORLD" every 4000 milliseconds. Create the threads by implementing the Runnable interface.	07
Q.3	(a) Explain the basic structure of C++ program.	03
	(b) Explain briefly virtual functions in Visual C++	04
	(c) Write a program for drawing a Circle in Visual C++.	07
Q.4	(a) Explain briefly Inheritance and Write an example of inheritance.	03
	(b) Explain briefly nested classes in Visual C++.	04
	(c) Write a program for drawing following shapes in Visual C++. 1. Rectangle 2. Square	07
Q.5	(a) Define below listed terms: 1. Type Casting 2. IDE 3. API	03
	(b) Determine output of following code: public static void P() { int i=0, s=1; for(i=1; i<=3; i++); s=s+i++; System.out.println(s+" "+i); }	04
	(c) Explain in detail package and interface with appropriate example.	07
Q.6	(a) Define access specifiers. Draw a table showing all the access specifiers and their accessibility in the class, package, subclasses and other packages.	03



```

{ int a=5+2*2/7%3;
double b=10/100*25;
double c=25*10/100;
double d=25*.1;
Systemout.print(a);
Systemout.println(b);
Systemout.println(c);
Systemout.print(d);
}

```

- (b) **04**
- (c) Enlist the uses of mentioned below of Thread class with example: **07**
1. wait()
  2. notify()
  3. sleep()
- Q.7** (a) Explain abstract classes and abstract methods with appropriate examples. **03**
- (b) Develop a program in JAVA to convert following: **04**
1. Centimeter to Meter
  2. Kilogram to Grams
- (c) Develop a code for a BMI (Body Mass Index) calculator in JAVA. **07**
- Q.8** (a) Differentiate Pure and Impure Functions. **03**
- (b) Write a program to convert Fahrenheit to Celsius in JAVA. **04**
- (c) Design a JAVA code for a simple calculator. **07**

\*\*\*\*\*