GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (_____ Semester) Question Bank

Sub. Code – Sub. Name

(Branch)

UNIT – I

PART – A (2 Marks)

	Short Answer Questions	CO #	Blooms Level
1.	Describe the uses of parseInt() in Java programming.	CO1	K1
2.	Write the code to check the biggest among three numbers using the ternary operator.	CO1	K1
3.	Why is Java called a platform-independent language?	CO1	K1
4.	Why is the main() method always declared as static in Java?	CO1	K1

5.	What is the output of the following code?
	public class A {
	public static void main(String[] args)
	{
	int $_ = 5;
	}
	}
		CO1	K2

6.	What will be the value of Total ?
	int five = 5;
	int two = 2;
	int total = five + (five > 6 ? ++two : --two);
		CO1	K2

7.	Predict the output of the following code.
	class Test
	{
	public static void main(String[] args) {
	for(int i = 0; 1; i++)
	{
	System.out.println("Hello");
	break;
	}
	}
	}
		CO1	K2

8.	Predict the output of the following code.
	class Main {
	public static void main(String args[]) {
	System.out.println(fun());
	}
	int fun() {
	return 20;
	}
	}
		CO1	K2

9.	Write any two differences between C++ and Java.	CO1	K1
10.	What is casting? Explain the need for typecasting with examples.	CO1	K1

11.	What will be the output of the following code?
	class test
	{
	public static void main(String a[])
	{ int i=1,j=10;
	do { if (i++ > --j) { continue;} }while(i<5);
	System.out.println(i+ " Hello" +j);
	}
	}
		CO1	K2

12.	What will be the output of the following code?
	class testArray
	{
	public static void main(String a[])
	{ int[ ] mak={1,2,3};
	System.out.println(mak[3]);
	}
	}
		CO1	K2

13.	What is a jagged array? Explain with an example.	CO1	K1
14.	Assume A[2][3] is a matrix. Write to code and create a transpose matrix of it.	CO1	K2
15.	Write a program to initialize an integer array and print the sum and average of the array.	CO1	K2

PART – B (10 Marks)

Long Answer Questions		Marks	CO #	Blooms Level
1. a.	Explain all the characteristics of "Object-oriented programming".	8		
b.	Write a Java program to read a number (using Scanner class) and test whether it is prime or not.	7		
2.a.	Briefly explain all the features of Java.	8		
b.	Write a program to read a number say 'n' (using command line arguments) and generate a Fibonacci series up to 'n.	7		
3. a.	Write a Java program that prints the following pattern 1 2 3 4 5 1 2 3 4 1 2 3 1 2 1	8		
b.	Differentiate between the Scanner class and Buffered Reader class in Java with a suitable example.	7		
4.a.	Describe JVM and explain and draw the Architecture of JVM.	8		
b.	Write a Java program to create and display unique three-digit numbers using 1, 2, 3, and 4 and print a total count of three-digit numbers.	7		

5. a.	Write a Java program to convert a binary number to a decimal number	8		
b.	Demonstrate a Java program to accept a number at run time using scanner class and check whether the given number is Armstrong or not.	7		
6.a.	Write a Java program to read a square matrix of 3x3 order and print the sum of all the elements of each row.			
b.	Write a program to read and convert seconds to hours, minutes, and seconds.			
7.a.	Write a Java program that prints the following pattern: 1 2 3 4 5 6 7 8 9 10			
b.	Write a program to check if the program has received command line arguments or not. If the program has not received arguments then print "No Values", else print all the values in a single line separated by ,(comma).			
8.a.	Write a program to receive a color code from the user (an Alphabhet). The program should then print the color name, based on the color code given. The following are the color codes and their corresponding color names. R->Red, B->Blue, G->Green, O->Orange, Y->Yellow, W->White. If color code provided by the user is not valid then print "Invalid Code".			
b.	Write a program to print first 5 values which are divisible by 2, 3, and 5.			
9.a.	Write a program to initialize a character variable in a program and print 'Alphabhet' if the initialized value is an alphabet, print 'Digit' if the initialized value is a number, and print 'Special Character', if the initialized value is anything else.			
b.	Write a program to print the sum of all the digits of a given number.			
10.a.	Write a program to find the sum of digits of a number until the sum becomes a single digit.			
b.	Write a program to initialize an integer array with values and check if a given number is present in the array or not. If the number is not found, it will print -1 else it will print the index value of the given number in the array.			

UNIT – II

PART – A (2 Marks)

Short Answer Questions		CO #	Blooms Level
1.	Write a Java program that will return the first half of the string, if the length of the string is even. It should return null if the length of the string is odd.		
2.	What will be the output of the following code?		

	class TestCompare
	{
	public static void main(String args[])
	{
	String G1 = "I am student at GIET";
	String G2 = new String(G1);
	System.out.println((G1 == G2) + " " + G1.equals(G2));
	}
	}		

3.	Write a program to receive an integer number as a command line argument, and print the binary, octal, and hexadecimal equivalent of the given number.		

4.	Predict the output of the following code.
	class TestFinal
	{
	final int MAXIMUM = m1();
	
	private int m1()
	{
	System.out.println(MAXIMUM);
	return 1500;
	}
	public static void main(String[] args)
	{
	TestFinal t = new TestFinal();
	System.out.println(t.MAXIMUM);
	}
	}		

5.	Predict the output of the following code.
	public class Test
	{
	public static void main(String[] args)
	{
	try
	{
	System.out.print("1");
	int sum = 9 / 0;
	System.out.print("2");
	}
	catch(ArithmeticException e)
	{
	System.out.print("3");
	}
	catch(Exception e)		

	{
	System.out.print("4");
	}
	finally
	{
	System.out.print("5");
	}
	}
	}		

6.	Differentiate between static and run-time polymorphism with an example.		
7.	List out the differences between “abstract class” and “interface”.		
8.	What is a marker interface? List out any two marker interfaces.		

9.	Predict the output of the following code.
	public class test
	{
	public static void main(String args[])
	{
	String s= “abc”;
	System.out.println(“char at”,s.charAt[3]);
	}
	}		

10.	Differentiate between “**implements**” and “**extends**” keywords.		
11.	What are the steps involved to create and import a package ?		
12.	How many String objects will be created? String S1 = new String("Java"); String S2 ="Program"; S1 = S1 + S2;		
13.	Explain the difference between **length** and **length()** with suitable example.		
14.	Predict the output of the following code. String x = "xyz"; x.toUpperCase(); String y = x.replace('Y', 'y'); y = y + "abc"; System.out.println(y);		

15.	Predict the output .
	class A
	{
	public A(int x){}
	}
	class B extends A { }
	public class test
	{		

	public static void main (String args [])
	{
	A a = new B();
	System.out.println("complete");
	}
	}		

PART – B (10 Marks)

Long Answer Questions		Marks	CO #	Blooms Level
1. a.	What is the role of the constructor? Explain constructor overloading with an example.			
b.	Define static data member in Java and demonstrate a suitable example to count the number of objects constructed using static data members.			
2.a.	Explain any three usages of "**this**" keyword with an example of each.			
b.	What is method overloading in Java? Write a program to overload **area()** method, which will calculate the area of a rectangle and square.			
3. a.	Create a class called Calculator with the following methods: 1) A static method called powerInt(int num1,int num2) This method should return num1 to the power num2. 2) A static method called powerDouble(double num1,int num2). This method should return num1 to the power num2. Invoke both methods and test the functionalities.			
b.	Write a program to create a base class Fruit with name, taste, and size as its attributes. Create a method called eat() which describes the name of the fruit and its taste. Inherit the same in 2 other classes Apple and Orange and override the eat() method to represent each fruit taste.			
4.a.	Demonstrate "**Autoboxing**" and "**Unboxing**" with suitable examples.			
b.	Explain the concept of "Dynamic method dispatch" with a suitable example.			
5. a.	List out *all the usages* of **super** keyword with suitable example.	10		
b.	Write a program to read an input String from the user and parse it to an integer, if it is not a number it will throw NumberFormatException, Catch it, and print "Entered input is not a valid format for an integer." or else print the square of that number.			
6.a.	Explain the working principle of "nested try-catch" with a suitable example.			
b.	Write a program to create a package called test package. Define a class called foundation inside the test package. Inside the class, you need to define 4 integer variables: var1 with private access modifier, var2 with default access modifier, var3 with protected access modifier, var4 with public access modifier. Import this class and packages in another class. Try to access all 4 variables of the foundation class and see what variables are accessible and what are not accessible.			

7.a.	Explain the following with an example: i) super ii) final			
b.	What is the difference between an Error and an exception? Write a Java program to illustrate the usage of multiple catch handlers.			
8.a.	Differentiate between String and StringBuffer class. Write a program to test whether a string is palindrome or not.			
b.	Explain the following method used in SringBuffer class with examples. i) append() ii) insert() iii) replace() iv) delete() v) length()			
9.a.	Write a Java Program to Find the Frequency of Character in a String			
b.	What is multiple inheritance? How can we achieve multiple inheritance in Java, explain with an example.			
10.a.				
b.				

UNIT – III

PART – A (2 Marks)

Short Answer Questions		CO #	Blooms Level
1.	Write a program to create a thread that prints 1 to 10. After printing 5, there should be a delay of 5000 milliseconds before printing 6.		
2.	Explain the role of wait(), notify() and notifyAll() methods?		

3.	class test
	{
	public static void main(String args[])
	{
	try
	{
	int a, b;
	b = 0;
	a = 5 / b;
	System.out.println("GIET");
	}
	catch(ArithmeticException e)
	{
	System.out.println("CSE");
	}
	finally
	{
	System.out.println("UNIVERSITY");
	}
	}
	}		

4.	What is a thread scheduler, and how is it related to thread priority?		
5.	Explain the need of "**static synchronization"** in multithreading.		
6.	What is a daemon thread? How do you create a daemon thread in Java?		
7.	Write down the syntax to open a file in reading mode. List out the possible		

	exceptions.		
8.	How many ways a thread can be created? Explain with and example.		
9.	Write a program to read a sentence and display it by inserting * in place of space.		
10.			
11.			
12.			
13.			
14.			
15.			

PART – B (10 Marks)

Long Answer Questions		Marks	CO #	Blooms Level
1. a.	Write a program to create two threads, one thread to display all even numbers between 1 & 20, and another thread to display odd numbers between 1 & 20. **Note**: Display all even numbers followed by odd numbers			
b.	Differentiate among sleep(), yield(), and join() method.			
2.a.	Create a class called Employee with properties name(String), department(String), designation(String), and Salary(double). Create respective getter and setter methods and constructors (no-argument constructor and parameterized constructor) for the same. Create an object of the Employee class and save this object in a file called "data" using serialization. Later using deserialization read this object and print the properties of this object.			
b.	Explain the life cycle of a thread with a neat diagram.			
3. a.	What is the significance of the "**anonymous inner class"** ? Explain with an example.			
b.	Write a program to copy the contents of a file "source.txt" into "destination.txt". (**Note**: All possible exceptions should be handled.)			
4.a.	What is synchronization? Explain the role synchronized method with a suitable example.			
b.	Explain the role of InputStream and OutputStream classes. Write a program to count the total characters present in a file (excluding the spaces).			
5. a.	Write down the syntax of nested try block. Explain with suitable example by using exception classes ArithmeticException and ArrayIndexOutOfBoundsException.			
b.	Explain thread priorities with a suitable example.			
6.a.	What do you mean by deadlock? Explain with an example.			
b.	What is user user-defined Exception in Java? WAP to accept student age and check whether he is eligible to vote or not? Show an appropriate message when the age is not eligible.			

7.a.				
b.				
8.a.				
b.				
9.a.				
b.				
10.a.				
b.				

UNIT – IV

PART – A (2 Marks)

Short Answer Questions		CO #	Blooms Level
1.	Describe the methods (1) setBackground( ) (2) setForeground( ) with their syntax.		
2.	Differentiate between “applet” and “application”.		
3.	What is the advantage of “Adapter” class over “Listener” interface?		
4.	What is the difference between the paint() and init() method?		
5.	Write down the syntax and usage of setBounds() and setSize() method in AWT.		
6.	Explain the role of the Frame class in AWT programming.		
7.	Write a program to display “**Hello Friend**” using an applet.		
8.	Write a program to set parameter using applet and display the values of parameters using an applet.		
9.	What is the difference between “getDocumentBase()” and “getCodeBase()” method.		
10.	List out any four methods (along with syntax and usage) of **Graphics** class.		
11.	List out the basic differences between **checkbox** and **radio button**. Write down the steps to create three checkboxes (CSE,CST,CSA) and two radio buttons (MALE,FEMALE).		
12.			
13.			
14.			
15.			

PART – B (10 Marks)

Long Answer Questions		Marks	CO #	Blooms Level
1. a.	Write a Java program to implement the MouseMotion Adapter.			
b.	How applets are different from applications? Explain the life cycle of an applet.			
2.a.	Write a Java program to count the total number of words and characters entered in the TextField.			

b.	Write a program to draw a smiley using the applet.			
3. a.	Write a program to explain event handling related to a Radio button.			
b.	List out the methods used to display an image in an applet. Illustrate with an example.			
4.a.	Write a program to create two checkboxes “JAVA” and “PYTHON”. Design two labels that will display checkbox contents when selected.			
b.	Write a program to illustrate event handling using the Choice box.			
5. a.	Write a program to input 2 numbers into two TextFields. Display the sum of them in another TextField when the button is clicked.			
b.	Write a program to display an image using an applet.			
6.a.	Write a program to illustrate all the methods of the WindowListener interface.			
b.	Write a program to draw a circle on the window each time the mouse is clicked.			
7.a.	Write a program to draw the following in an applet - rectangle (filled with blue color) - oval (filled with red color) - elliptical arc (green color)			
b.				
8.a.				
b.				
9.a.				
b.				
10.a.				
b.				
