

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED- SEMESTER - III EXAMINATION- SUMMER-2023

Subject Code: 2638601**Date: 01/07/2023****Subject Name: Object Oriented Programming in JAVA****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a) Write any seven. 07**
1. Byte code
 2. A method in Interface is always abstract. Why? Write one disadvantage of layering scheme.
 3. Abstract and final cannot be used together. Justify.
 4. List any two AWT components.
 5. Any two required attributes of Applet tag.
 6. What is meta-annotation?
 7. 'new' operator is used to create both primitive types and objects. (True or False)
 8. Full form of JVM.
- (b) Do as directed:**
1. Why Java is so popular? 03
 2. What is an interface? How it is important in Java? Explain with example. 04
- Q.2 (a) What is Thread? How thread is created in Java? Explain with example. 07**
- (b) What is an abstract class? What is an interface? Write a java program to explain the need of these concepts. 07**
- OR**
- (b) Explain the life cycle of Thread. Specify some important methods of Thread class. 07**
- Q.3 (a) What is collection framework? Discuss Vector, HashTable and Enumeration with their methods. 07**
- (b) What is Package? State the steps to create and import a package with required java program code. 07**
- OR**
- Q.3 (a) Define package. State the steps to create and import a package 07**
- (b) Explain the life cycle of Thread. Specify some important methods of Thread class. 07**
- Q.4 (a) Explain enum type with example. 07**
- (b) Differentiate final and finally with example 07**
- OR**
- Q.4 (a) What is an event listener? List down all event listener and use it for which component. 07**
- (b) What is Layout Manager? Explain the different types of layout in details. 07**
- Q.5 (a) Create a class called product, each product has a name, code and price. Create a vector of product objects. Write a program to add, modify, delete product from vector. After above operations on vector, vector elements should be displayed. 07**
- (b) Discuss about initializer blocks and class initializer blocks. 07**
- OR**
- Q.5 (a) What is the difference between runtime errors and compile time errors? Explain using suitable example 07**
- (b) Explain the difference between Comparable and the Comparator interfaces. Explain them with appropriate example 07**