Code No: 183BU **R22**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year I Semester Examinations, February - 2024
OBJECT ORIENTED PROGRAMMING THROUGH JAVA
(Artificial Intelligence and Data Science)

Time: 3 Hours **Max. Marks: 60**

Note: This question paper contains two parts A and B.
i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

1.a)	What is type conversion?	[1]
b)	List the various operators in Java.	[1]
c)	What is an abstract class?	[1]
d)	Can a class extend multiple interfaces?	[1]
e)	What are annotations in Java?	[1]
f)	How can you create your own exception subclass?	[1]
g)	What is the purpose of a ScrollPane in Java GUI?	[1]
h)	Name any two user interface components in Java.	[1]
i)	Which Swing class is used for creating buttons?	[1]
j)	Name any two limitations of AWT.	[1]

PART-B

(50 Marks)

2.a) Discuss the various data types available in Java, with examples.
b) Describe the key features of classes and objects in Java. [5+5]

OR

3.a) Write the summary of OOP concepts.
b) Explain the control statements in Java. [5+5]

4.a) Explain the purpose of the CLASSPATH and how it is used in Java.
b) Illustrate the use of the super keyword in a Java program. [5+5]

OR

5.a) Explain the process of defining, creating, and accessing a package in Java.
b) Write a Java program that uses the final keyword in the context of inheritance. [5+5]

6. Explain the usage of try, catch, throw, throws, and finally in Java exception handling with code examples. [10]

OR

7.a) Differentiate between regular threads and daemon threads in Java.
b) Describe the life cycle of a thread in Java. [5+5]

8. Explain the role of Graphics in drawing and rendering in Java. Write a Java program that demonstrates the use of the Graphics class. [10]

OR

9.a) Implement a Java program that utilizes the AWT class hierarchy to create a simple user interface.

b) Discuss the handling of mouse events in Java. [5+5]

10.a) Describe the Model-View-Controller architecture.

b) Compare the features of JApplet and JFrame in Java Swing. [5+5]

OR

11.a) Explain how to pass parameters to applets.

b) Discuss how Combo boxes contribute to a more user-friendly interface in Java Swing. [5+5]

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