R20 Regulation *Subject code:3O7GB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Supplementary Examinations, October 2026

OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(CSE(AIML))

Maximum Marks: 70 Date: 28.10.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

	All the following questions carry equal marks (10X2M=20 Marks)	Marks	CO	BTL
1	What is an abstract class?	2M	1	L1
2	What is the difference between print() and println() methods in Java.	2M	1	L1
3	What is interface and its use?	2M	2	L1
4	List the methods of FileInputStream.	2M	2	L1
5	Define thread.	2M	3	L1
6	What are the two ways of creating a thread?	2M	3	L1
7	How to access a Collection?	2M	4	L1
8	What is string tokenization?	2M	4	L1
9	List any two Event Classes	2M	5	L1
10	List any two sources of Events.	2M	5	L1

Part-B

	Answer All the following questions. (5X10M=50Marks)	Marks	CO	BTL
11	a) What is object-oriented programming? Explain. b) Explain different types of inheritance supported by java with examples.	5M 5M	1	L2
	OR			
12	Develop a Java program to demonstrate inheritance. Create a superclass Vehicle with fields like make and model and a subclass Car that adds fields like number Of Doors. Write a constructor for Car that initializes all fields.	10M	1	L2
13	a) What is a package in Java? Explain controlling access to members of a class. b) Explain generics in Java with an example.	5M 5M	2	L2
	OR			
14	a) What is auto-boxing? Explain. b) Write a Java program to create and import packages.	5M 5M	2	L2
15	Implement a Java program that demonstrates the use of the synchronized keyword. Create a shared resource (e.g., a counter) that is accessed by multiple threads, and ensure thread-safe access to this resource.	10M	3	L2

	OR			
16	a) Write a Java program that creates and starts a thread using the Runnable interface. The thread should print a message indicating it is running and then terminate. b) Explain Thread synchronization with an example.	5M 5M	3	L2
17	Explain in detail about the Collections Framework in Java.	10M	4	L2
	OR			
18	a) What is an Iterator? Explain the purpose of it. b) List and explain any two Collection classes.	5M 5M	4	L2
19	a) Model the MVC architecture in detail. b) What is an Event? Explain the role of the event handler in AWT.	5M 5M	5	L2
	OR			
20	Write a Java program using AWT to create a simple graphical user interface (GUI) with a window containing a button labeled "Click Me". When the button is clicked, a message dialog should display the text "Button Clicked".	10M	5	L2