G.R. No.	

PAPER CODE	U124 - 394

March 2024 (INSEM) EXAM
F.Y.B. TECH. E&TC (SEMESTER - II)
COURSE NAME: Object Oriented Programming
COURSE CODE: ET12234
(PATTERN 2023)

Time: [40 min]   [Max. Marks: 20]

(*) Instructions to candidates:
1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **Solve any two sub questions from Question 1 and 2**

Qu. No.	Question Description	Marks	CO	Blooms Taxonomy Level
Q.1a	How would you demonstrate the implementation of a Java program capable of converting temperature values between Celsius and Fahrenheit scales? The program should prompt the user to specify the conversion direction (from Celsius to Fahrenheit or from Fahrenheit to Celsius) and then input the temperature value. Utilize appropriate control structures to execute the conversion based on the user's selection and display the result to the user.	[5]	1	Understand
Q.1 b	How can you illustrate a Java program to simulate a simple ATM transaction process? The program should prompt the user to input their PIN (Personal Identification Number). Utilize a loop structure to allow the user multiple attempts to enter the correct PIN. If the user enters an incorrect PIN three times, display a message indicating that the account is locked and exit the program. Use break to exit loop on correct PIN, and continue to skip invalid entries.	[5]	1	Understand
Q.1 c	Describe the significance of data types in Java programming and analyze their roles in facilitating efficient program execution. Illustrate the distinction between primitive and reference data types and impact of choosing appropriate data types on program efficiency and memory usage, considering factors such as storage requirements and performance optimization.	[5]	1	Understand

Q.2 a	Compare and contrast method overloading and method overriding in Java. Provide examples to illustrate each concept and discuss their respective use cases.	[5]	2	Analyze
Q.2 b	Illustrate the concept of inheritance in Java and its role in facilitating code reuse and extensibility. Provide an example showcasing a superclass and subclass relationship, and analyze the application of the super keyword and super method within the context of inheritance.	[5]	2	Apply
Q.2 c	Write a program that simulates a banking system where users can deposit, withdraw, and check their balance. How would you ensure that the user's account information remains secure and inaccessible from outside sources, utilizing encapsulation principles?	[5]	2	Apply