

**END SEMESTER EXAMINATION - MARCH 2025****SEMESTER 6 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE****COURSE : 21UP6CRMCP20 : MOBILE APPLICATION DEVELOPMENT USING KOTLIN***(For Regular 2022 Admission and Supplementary 2021 Admission)*

Time : Three Hours

Max. Weightage : 30

**PART A****Answer any 8 Questions**

1. Write the example of a sample manifest XML file.
2. Write the syntax for a primary constructor.
3. Write the syntax of a class declaration in Kotlin.
4. Define the term - function literal.
5. State the use of specifying a bundle object in *MainActivity.kt*.
6. Predict the output of the following code fragment:  

```
while ((rem = a % b) != 0) {  
    a = b  
    b = rem  
}  
println(b)
```
7. Given the following code, guess the output:  

```
fun main() {  
    val numbers = listOf(1, 2, 3, 4, 5)  
    val result = numbers.filter { it > 3 }  
    println(result)  
}
```
8. List any two examples of literals in Kotlin.
9. State the significance of the `onReceive()` method in Android programming.
10. Name a method that allows to save the preference edited.

**(1 x 8 = 8 Weight)****PART B****Answer any 6 Questions**

11. Demonstrate the traversal of lists using while and for loops. Also, explain the concepts used.
12. Write a program that demonstrates inheritance among interfaces.
13. Explain with an example, how implicit intents are set.
14. With an example for each category, explain the arithmetic and relational operators.
15. With an example, explain the use of `map` function in Kotlin.
16. Discuss the various data types supported by Kotlin.
17. Elaborate on the visibility modifiers in Kotlin.
18. Write short notes on implicit and explicit broadcast actions.

**(2 x 6 = 12 Weight)**

**PART C**  
**Answer any 2 Questions**

19. Define operator overloading. With a suitable example, overload the minus (-) operator.
20. Prepare notes on (a). Exception handling in Kotlin (b). Exiting the loop and skipping a part of loop
21. With a sample program for each, explain the use of `with` and `apply` statements.
22. Create a GUI application that increments a number and displays it on the click of a button. Also, explain the steps involved.

**(5 x 2 = 10 Weight)**