Reg. No ..... Name **26U654**

END SEMESTER EXAMINATION - MARCH 2026

SEMESTER 6 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE

COURSE : **21UP6CRMCP20 : MOBILE APPLICATION DEVELOPMENT USING KOTLIN**

(For Regular 2023 Admission and Supplementary 2022/ 2021 Admissions)

Time : Three Hours Max.Weightage: 30

PART A

Answer any 8 Questions

1. State the use of `override` keyword in Kotlin.
2. Sate any two ways in which a `set` differs from that of a `list`.
3. State the need of declaring `<intent-filter>...</intent-filter>` in the AndroidManifest.xml file.
4. Name the built-in methods that are used to retrieve the first and last elements of a list.
5. List any two UI elements that comes under the ViewGroup hierarchy.
6. Predict the output of the following Kotlin code snippet:

```
fun main() {
    val flag1: Boolean = true
    val flag2: Boolean = false
    println(flag1 && flag2)
}
```

7. State the use of `onResume()` method in Android.
8. State the use of fragment in Kotlin.
9. Write the syntax of providing single line and multiline comments in Kotlin.
10. Predict the output of the following code in the context of data classes:

```
data class Person(val name: String, val age: Int)
fun main() {
    val person = Person("John", 30)
    println(person.toString())
}
```

(1 x 8 = 8 Weight**)**

PART B

Answer any 6 Questions

11. Explain how ranges can be used in for loops.
12. Predict the output of the following code snippet:

```
fun main() {
  val numbers = listOf(1, 2, 3, 4, 5)
  val result = numbers.filter { it % 2 == 0 }.map { it * 2 }
  println(result)
}
```

13. Explain how intents are used to send data from a secondary activity back to its main activity.
14. Discuss with an example, how generic classes are created and instantiated.
15. Write a Kotlin program to overload a method called `volume()` to calculate the volume of any three shapes.

16. Discuss the process of setting up a receiver in the manifest file.
17. With an example, explain how parameters are passed to functions.
18. Prepare short notes on the Diamond Problem. Also, explain how it can be resolved.

(2 x 6 = 12 Weight)

PART C
Answer any 2 (5 marks each)

19. With an example, explain how varying number of arguments can be used collectively as function parameters.
20. By a step-by-step detailing, explain the process of developing a simple HelloWorld application.
21. With necessary examples, explain how branched execution is performed in Kotlin.
22. Explain how lambda function can access its closure.

(5 x 2 = 10 Weight)