

Roll No.: _____
Amrita Vishwa Vidyapeetham
Amrita School of Computing, Coimbatore
B.Tech. Lab Exam– April 2024
Sixth Semester
Computer Science and Engineering
19CSE313 Principles of Programming Language

Duration: One hour

Maximum: 20 Marks

SET 2

Course Outcomes (COs):

CO	Course Outcomes
CO01	Understand and write pure functional programs (especially in Haskell and Scala).
CO02	Understand and write concurrent programs in Java.
CO03	Formulate abstractions with higher order procedures.
CO04	Formulate abstractions with data.

Rubrics		
Q1 – Implementation (6)	Q2 – Implementation (6)	Output (Q1 + Q2 – 4 + 4)
0 - Not done	0 - Not done	0 + 0 - Not done
2-Base Case	2 – Base case	2 + 2 - Partial Output

1, Write a function `fml` list that returns a 3-tuple with the first, middle and last elements of a list. Assume the list is nonempty and has at least one element. Note : You should not use the `!!` list indexing operator. Example: [CO01][BTL3][10]

> `fml [1,2,6,7]` gives `[1,6,7]`

> `fml [1,2,3,4,5,6,7]` gives `[1,5,7]`

2. Define a higher-order function called `applyNTimes` that takes an integer `n` and a function `f`, and returns a new function that applies `f` to its argument `n` times. CO03][BTL3][10]

Example > `applyNtimes 3 (+3) 4` gives 13 .