- Academic Year: 20223-2024
- Department: Computer Science and Engineering
- Course: Introduction to Probability and Descriptive Statistics

TD2

Exercise 1

I An agricultural company owns fruit trees distributed as follows: 11.1% olive trees, 16.6% apple trees, 10.6% peach trees, 16.7% apricot trees, 38.6% orange trees, and 6.4% almond trees.

(a) What is the studied population?

(b) What is the observed characteristic? What is its nature and what are its modalities?

(c) Represent this distribution with the appropriate graph.

II Employee Distribution by Socio-Professional Category

The employees, both men and women, are distributed according to their socio-professional category (CSP) as follows:

CSP	Number of Men	Number of Women
Senior Managers	5	1
Middle Managers	11	6
Employees	11	44
Workers	70	40
Service Staff	2	8
Other Categories	1	1

Table 1: Distribution of employees by socio-professional category

(a) For each of these two distributions find the Population, Characteristic Studied, Nature of the Characteristic, Modalities of the Characteristic and Graphical Representations.

(b) Represent these two distributions on the same graph to facilitate comparison.

(c) Discuss the evident conclusion that can be drawn from the visual comparison.

III The number of telephone calls per day made by an employee, over a period of 50 days, is distributed as follows:

Number of Calls	0	1	2	3	4	5	6
Frequency	4	20	13	2	3	7	1

Table 2: Frequency Distribution of Telephone Calls

(a) What is the population under study?

(b) What is the observed characteristic? What is its nature and its modalities?

(c) Represent this distribution on the same graph using the appropriate diagram for frequencies and counts.

(d) Construct the cumulative frequencies counts curve, both increasing and decreasing.

IV The employees are distributed according to their salary as follows:

Salary Range (DA)	Number of Employees
Less than 20,000	56
20,000 to less than 25,000	68
25,000 to less than 30,000	38
30,000 to less than 50,000	30
50,000 to less than 100,000	8

Table 3: Salary Distribution of Employees

(a) What is the studied population?

(b) What is the observed characteristic? What is its nature?

(c) If the minimum salary is 18,000 DA, represent this distribution with the appropriate diagram.