Total Time (including reading): 25 minutes

QI. **(0.50 p-ELIMINATORY)** Create on the desktop a folder named **ExamMIB_Name** (where Name is your first name).

QII.

1. (0.25p) Create a new PowerPoint document. Save the file in the **ExamMIB_Name** folder as *Test.*

2. (0.25p) On the first slide include the following information: Title as "*Smoking in Relation to Coronary Atherosclerotic Plaque*", Your full name, Faculty, University, Group number.

3. (1.5p) On the second slide, type the text below, create and fill the table (respect the formatting: bold, italic, underline, symbols):

_____

Buljubasic et al. investigated in <u>*2015*</u> the relation between **smoking** and **coronary atherosclerotic plaque** burden, volume and composition on intravascular ultrasound (doi: 10.1371/journal.pone.0141093). The association between *dyslipidemia* and smoking status is presented in Table 1.

<div align="center">

Table 1. *Smoking* status and *dyslipidemia*.

	Current smokers **(n=169)**	Never smokers **(n=307)**	**P-value**
Dyslipidemia, n (%)	80 (47.6)	178 (58.0)	0.030

The P-value was obtained by Chi-square test
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4. (1,5 p-ELIMINATORY) On the third slide:

- Write the null hypothesis associated to the test applied according to Table 1.
- Write the alternative hypothesis.
- Write the % of subjects with dyslipidemia among current smokers.
- Write the statistical interpretation of the p-value found in Table 1.

QIII. A study was conducted to investigate the <u>efficacy</u> of a new diet (intervention: diet and physical activity) in **reducing the body weight** compared to physical activity only (control). The following variables were collected for each subject included in the study: *Group, Gender, Medium, Age (years), Height (m), Weight baseline (kg), Weight end (kg)*. The data was collected and presented in **Database1.xlsx** file

Requests

1. (0.25 p - ELIMINATORY) Save the file as *ExcelExam* in the **ExamMIB_Name** folder (created in QI).

2. (1 p - ELIMINATORY) Define a new variable named **WeightDiff.** Use the following formula to display for each subject the value **WeightDiff**:

WeightDiff = (((Weight baseline) – (Weight end))/(Weight baseline))*100

3. (1 p) Create a graphical representation to illustrate the distribution of **Group**.

4. (0.75 p) Provide the interpretation of the graph created at previous request. Type the interpretation under the graphical representation.

5. (1 p) Compute the following statistical parameters for variable **Age**: skewness, kurtosis, mean, and amplitude.

6. (1 p) Is the **Weight end** significantly different by the **Weight baseline** in the <u>control group</u>? Knowing that data follow the normal distribution, apply the proper statistical test and save the results in a new sheet named *Test*. Under the table with the results, write ①the hypotheses (null and alternative), ②decision and ③conclusion in the context of the problem.