

RULES AND REGULATIONS FOR THE WRITTEN EXAMS
AT THE FACULTY OF ENGINEERING AND NATURAL SCIENCES

Please read this document carefully, sign the bottom part, and include this form with your solution sheet.

- The exam duration (start-end times) will be written on your exam sheet or will be announced, you should adhere to these times.
- You cannot leave the examination room in the **first 30 minutes** of the exam.
- You are **NOT allowed** to take the exam once a student has left one of the exam rooms.
- Talking with another student during the exam for any reason (asking for an explanation, for a calculator or eraser or any other object) is **NOT allowed**.
- If you **GIVE** to or **RECEIVE** from a student any item (eraser, calculator, pen, etc.) during the exam, this will be taken as a sign of cheating.
- **TURN OFF** your CELLPHONES AND SMART DEVICES; and **PLACE THEM away from you** such that those **CANNOT BE SEEN** from outside.
- **HAVING a CELLPHONE or a SMART DEVICE** that is **VISIBLE FROM OUTSIDE** during the exam is **NOT ALLOWED**. Interacting with a cellphone in any way (EVEN IF IT IS TURNED OFF) will be taken as a sign of cheating.

In case of a sign of cheating, or if you do not obey the above rules, there will be a disciplinary action taken towards you based on the STUDENT DISCIPLINARY REGULATIONS of YÖK Items 2.5, 2.7, and 2.8.

I understand the above-mentioned rules and regulations, and I hereby accept them, and any consequences following my actions during the exam.

Student Full Name:

Student Number:

Course Code and Title:

Signature:

Date:

<u>STUDENT ID:</u>		<u>FULLNAME:</u>		<u>SIGNATURE:</u>	
<u>Q.1:</u>	<u>Q.2:</u>	<u>Q.3:</u>	<u>Q.4:</u>	<u>TOTAL:</u>	

Q.1) (20) Define and provide examples for each of the following types of attributes: Nominal, Ordinal, Interval, and Ratio.

Q.2) (20) Which data types can be used to represent both the order of information (like a sequence of events) and the relationships between different pieces of data (like connections between webpages)?

Q.3) (15) (a) Define data quality problems and provide examples of common issues encountered in real-world datasets.

(b) (15) Explain the significance of data quality in ensuring the reliability, accuracy, and usefulness of data for decision-making.

Q.4) (30) Consider the following dataset stored in a Pandas DataFrame:

```
import pandas as pd
```

```
data = {'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Emily'],  
        'Age': [25, 30, 35, 40, 45],  
        'City': ['New York', 'Los Angeles', 'Chicago', 'Houston', 'Boston']}
```

```
df = pd.DataFrame(data)
```

a) (10) Write a Pandas code snippet to display the first 3 rows of the DataFrame.

```
print(  )
```

b) (10) Write a Pandas code snippet to calculate the average age of the individuals in the DataFrame.

```
average_age =   
print("Average Age:", average_age)
```

c) (10) Write a Pandas code snippet to filter the DataFrame to only include individuals aged 35 or older.

```
filtered_df = df[  ]  
print(filtered_df)
```