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| yildiz teknik amblem ile ilgili görsel sonucu | **YILDIZ TECHNICAL UNIVERSITY**  **DEPARTMENT OF BIOMEDICAL ENGINEERING**  **BME3402- MEDICAL INSTRUMENTATION LABORATORY** |

**EXP-5 ELECTROENCEPHALOGRAPHY (EEG)**

1. **EEG Amplitude Measurements**

**Table 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Rhythm** | **CH Measurement** | **Eyes Closed** | **Eyes Open** | **Eyes Re-closed** |
| Alpha |  |  |  |  |
| Beta |  |  |  |  |
| Delta |  |  |  |  |
| Theta |  |  |  |  |

1. **EEG Frequency Measurements from first ‘Eyes closed’ data**

**Table 2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rhythm | **CH Measurement** | **Cycle 1** | **Cycle 2** | **Cycle 3** | **Mean** |
| Alpha |  |  |  |  |  |
| Beta |  |  |  |  |  |
| Delta |  |  |  |  |  |
| Theta |  |  |  |  |  |

1. **Complete Table 3 with the amplitudes of the recorded data** in the control and experimental conditions.

**Table 3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Condition** | **EEG** | **Alpha** | **Alpha-RMS** | **Alpha-RMS Difference**  **(Exp. - Control)** | **Alpha-RMS Summary (+, −, =)** |
|  |  |  |
| Eyes closed (**Control**) |  |  |  |  |  |
| Mental arithmetic |  |  |  |  |  |
| Recovering from hyperventilation |  |  |  |  |  |
| Eyes open |  |  |  |  |  |

**Questions**

1. List and define two characteristics of regular, periodic waveforms.
2. Compare and contrast synchrony and alpha block.
3. Examine the alpha and beta waveforms for change between the “eyes closed” state and the “eyes open” state.
4. Does **desynchronization** of the alpha rhythm occur when the eyes are open?
5. Does the beta rhythm become more pronounced in the “eyes open” state?
6. Define the following terms:
7. Alpha rhythm
8. Beta rhythm
9. Delta rhythm
10. Theta rhythm
11. What might account for the amplitude difference of waves recorded from a subject tested alone, in a darkened room, and subjects tested in a lab full of students?