Name:
Group: GM, DM

School year:
Date of measurement:

## Report

## Topic: Electrocardiography I

## Exercise:

a) Monitor and record an ECG from 12 leads of your schoolmate.
b) For the instantaneous values of potential in QRS complex check the validity of following relations: $\mathrm{U}_{\mathrm{II}}=\mathrm{U}_{\mathrm{I}}+\mathrm{U}_{\text {III }}\left(\mathrm{U}_{\mathrm{I}}=\mathrm{U}_{\mathrm{L}}-\mathrm{U}_{\mathrm{R}}\right.$, $\mathrm{U}_{\mathrm{II}}=\mathrm{U}_{\mathrm{F}}-\mathrm{U}_{\mathrm{R}}, \mathrm{U}_{\mathrm{III}}=\mathrm{U}_{\mathrm{F}}-\mathrm{U}_{\mathrm{L}}$ ).
c) Construct and evaluate the mean electrical axis of the QRS complex.

Instrumentation: electrocardiograph ECG Praktik, ECG gel.
Procedure: According to the manual.

## Measured and calculated values:

|  | $\mathbf{Q}[\mathrm{mV}]$ | $\mathbf{R}[\mathrm{mV}]$ | $\mathbf{S}[\mathrm{mV}]$ | $\mathbf{U}[\mathrm{mV}]$ |
| :---: | :---: | :---: | :---: | :---: |
| I |  |  |  |  |
| II |  |  |  |  |
| III |  |  |  |  |

## Sensitivity:

$$
\begin{array}{ll}
\mathrm{U}_{\mathrm{I}}=\mathrm{U}_{\mathrm{Q}_{\mathrm{I}}}+\mathrm{U}_{\mathrm{R}_{\mathrm{I}}}+\mathrm{U}_{\mathrm{S}_{\mathrm{I}}}= & {[\mathrm{mV}]} \\
\mathrm{U}_{\mathrm{II}}=\mathrm{U}_{\mathrm{Q}_{\mathrm{II}}}+\mathrm{U}_{\mathrm{R}_{\mathrm{II}}}+\mathrm{U}_{\mathrm{S}_{\mathrm{II}}}= & {[\mathrm{mV}]} \\
\mathrm{U}_{\mathrm{III}}=\mathrm{U}_{\mathrm{Q}_{\text {III }}}+\mathrm{U}_{\mathrm{R}_{\mathrm{III}}}+\mathrm{U}_{\mathrm{S}_{\mathrm{III}}}= & {[\mathrm{mV}]} \\
\mathrm{U}_{\mathrm{II}}= & {[\mathrm{mV}]} \\
\mathrm{U}_{\mathrm{I}}+\mathrm{U}_{\mathrm{III}}= & {[\mathrm{mV}]}
\end{array}
$$

Construction of the mean electrical axis of QRS complex (graph paper).
Read from the table of ECG: QRS=
Einthoven's read from a triangle: $\mathbf{Q R S}=$

## Conclusions and commentary:

