

Name: \_\_\_\_\_

ID: \_\_\_\_\_

### Analytical Chemistry II – Quiz (9<sup>th</sup> March, 2021)

- 1) - What is a *figure of merit* in analytical chemistry?  
- Give two examples of figures of merit.

A figure of merit is a number that provides quantitative information about some performance criterion for an instrument or method.

Examples: standard deviation, systematic error, coefficient of selectivity.

- 2) - What is selectivity of analytical method? (1-2 sentences)  
- How can we express mathematically the influence of compounds B and C on quantitative analysis of compound A? (1 formula)

Selectivity tells us whether an analytical method can discriminate between the analyte and other species present in the sample. It reveals interferences during analytical measurements.

$$S = m_A C_A + m_B C_B + m_C C_C + S_{bl}$$

$$k_{B,A} = m_B / m_A$$

$$k_{C,A} = m_C / m_A$$

$$S = m_A (C_A + k_{B,A} C_B + k_{C,A} C_C) + S_{bl}$$