

ENTRANCE EXAMINATION

The applicants are accepted on the basis of a written entrance examination consisting of tests in the subjects: **Chemistry and Biology**.

The written exam in biology:

- consists of multiple choice questions with answers out of which only one answer is correct and questions that have to be answered in one or more written words
- contains a total of **37 questions**; a correct answer is valued 1 point and a wrong answer is valued 0 point, thus the maximal result in the biology test is **37 points**

The written exam in chemistry:

- the answer is a concrete formula, chemical equation, scheme, drawing or solving an arithmetical problem
- contains a total of **17 questions**; a correct answer is valued according to its difficulty 1-3 points (**No. 1-14 = 2 points max, No. 15-17 = 3 points max**) and a wrong answer is valued 0 point, thus the maximal score that can be obtained is **37 points**

The entrance examination is carried out **in English language**.

The duration of written entrance exam in biology and chemistry must **not exceed 120 minutes**.

No periodic tables or other reference materials are necessary, apart from a **simple calculator**.

The maximal total number of points from both biology and chemistry tests is **74 points**.

The acceptance pass mark in Biology is **10 points**.

The acceptance pass mark in Chemistry is **10 points**.

The decision will be announced **within 30 days** from the verification of fulfilment of conditions for admission. Applicant may request a review of the decision within 30 days of its delivery.

The applicant is entitled to check all of his/her materials that are relevant to the decision on his/her admission, at the study office of the faculty after the day when the decision of his/her admission is announced to him/her.

EXAMPLES OF QUESTIONS

BIOLOGY:

What are three domains of life according to latest classification?

- a) fungi, plants, animalia
- b) bacteria, archaea, eukarya**
- c) archaea, bacteria, animalia
- d) prokaryota, eukaryote, bacteria

What is the name of theory that describes the formation of Universe?

- a) endosymbiosis
- b) biogenesis
- c) Big Bang**
- d) holism

What name is connected with evolution?

- a) Watson
- b) Purkyně
- c) Mendel
- d) Lamarck**

CHEMISTRY:

Write the chemical formula of the chromate ion and indicate the oxidation number of the chromium and oxygen atoms:

- | | | |
|--|--------------|-------------|
| a) CrO^- | Cr +2 | O -3 |
| b) CrO_3^{2-} | Cr +4 | O -2 |
| c) CrO_3^+ | Cr +7 | O -2 |
| d) CrO_4^{2-} | Cr +6 | O -2 |
| e) CrO_2^- | Cr +5 | O -2 |

Find the correct chemical formula for the following inorganic substance:

Calcium hydroxide

- a) MgOH
- b) $\text{Ca}(\text{OH})_3$
- c) $\text{Cs}(\text{OH})_2$
- d) $\text{Ca}(\text{OH})_2$**
- e) $\text{Cd}(\text{OH})_2$

Find the correct name of the inorganic substance having the following chemical formula:

H_2SeO_3

- a) Sulphuric acid
- b) Selenic acid
- c) Selenous acid**
- d) Hydrosulphuric acid
- e) Sulphurous acid