

EVOLUTION OF MCQs IN ORGANIC CHEMISTRY IN THE FRAMEWORK OF THE UNIVERSITY ENTRANCE EXAMINATION IN AZERBAIJAN

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The entrance exam is an objective, transparent and step-by-step assessment system used for the admission of students to higher and secondary educational institutions of Azerbaijan carried out by State Examination Commission (SEC). The results of the exam measure the level of knowledge of applicants and serve as the basis for their admission to the chosen specialty and university.

The main purpose of the entrance exam is to properly form the country's human resources, improve the level of education and demonstrate the knowledge and skills of applicants in a fair competitive environment.

The importance of the entrance exam has increased in 2025. The requirements of the modern labor market, rapid technological development, digitalization and global trends have required new approaches and changes in the content of admission to higher education institutions. The results of the exam become a key indicator not only for admission to a higher education institution, but also for future careers, scholarships and social opportunities.

At the entrance examination, subjects are chosen by specialties. Traditionally, the first group includes technical and engineering disciplines, the second - humanities, the third - social and pedagogical specialties, and the 4th – medical, chemical and biological specialties.

For each group of specialties, basic and additional subjects are determined.

The exam program in the subject of chemistry is compiled on the basis of textbooks of grades VII-XI and covers educational material related to the implementation of the required learning outcomes and content standards of the subject curriculum.

The purpose of the entrance exam is to evaluate the general education training in chemistry of graduates of general education institutions for the purpose of their certification and competitive selection to higher education.

In this work, a systematic analysis of tasks in organic chemistry is carried out. The objects of the study were the updated Multiple Choice Questions (MCQ) bank of 2025, as well as a copy of the old MCQ bank of 2021, as well as options for trial and real entrance exams for the fourth group of specialties of the period 2021–2025.

As a result of the study, the following patterns were revealed:

The structure of the exam has become more standardized (22 closed-type tests, 5 opened test tasks, 1 situational task consisting of three consecutive tasks).

Changes in the wording and types of tasks occur gradually, from year to year, but there are no sharp shifts in the structure of organic chemistry (instead of the classic "choose a few correct ones", questions to establish correspondence between elements are more common, which changes the logic of the solution

The SEC experts is gradually increasing the variability of tasks, as for the section of organic chemistry – tasks may include: analysis of multi-stage reactions, calculations based on structural formulas, logical comparison between the structure and properties of compounds.

Although the topics of organic chemistry themselves remain traditional (hydrocarbons, alcohols, aldehydes, acids, nitrogen-containing compounds), the content of the tasks has changed as follows: additional understanding of the pathways of reactions, deeper elements of structural analysis, understanding of stoichiometry in problems. This means that students must not only know the names of compounds, but also be able to project the structure onto properties and reactions.

Experts of the SEC are adjusting the levels of complexity of the tasks: some tasks that used to belong to the basic level are now at an increased level - this may also apply to parts with organic chemistry, when a deeper understanding of the reactions is checked.

Results of the study represented in table 1.

Table 1. How the tasks in organic chemistry have changed

Aspect	The essence of the changes
Task formats	More complex formulations, new types (correspondence, integrated tasks)
Structure	The number of tasks and division into parts has been stabilized, but the variability is growing
Content of Science	The logic of reactions and the analysis of structures are checked more deeply
Difficulty	Organic problems remain complex, especially combined and computational ones
Difficulty levels	Some organic quests have been changed from basic to advanced

As a result of the study, it was found that in order to successfully solve tasks in organic chemistry at entrance exams, it is recommended to train solutions not on mechanical rules, but on structural formulas and reactions, to understand multi-stage reactions, which is the key to high scores, as well as to practice combined problems with calculations and logical conclusions.