Test für Ausländische Studierende
Test for Academic Studies

Explanatory notes regarding the TestAS certificate

Mathematics, Computer Science and Natural Sciences Module

Introduction

The TestAS measures intellectual abilities relevant for successful university studies. It does not require any specialist knowledge. Each subtest measures a different aspect of the cognitive abilities necessary for successful academic studies.

The TestAS consists of a Core Test that assesses the general scholastic aptitude, and four specific test modules that measure the abilities relevant for particular courses of study. The present explanatory notes refer to the subject-specific module Mathematics, Computer Science and Natural Sciences.

The TestAS certificate contains a test taker's results in the modules and subtests which he/she worked on. Each assessed task correctly solved is valued as one point. Wrong answers and tasks which were not completed are rated as zero points.

The TestAS results are considered in various ways by German universities. The TestAS is regarded as an objective and valid instrument for the qualitative selection of study applicants. Test takers are informed about their prospects of successful studies. Universities and uni-assist can verify the authenticity of TestAS certificates handed in by applicants via the academia portal.

1. What does the Standard Score stand for?

The **Standard Score** gives a test taker's results using a scale with mean 100 and standard deviation 10. Nearly all test takers are placed between 70 and 130 on this scale. Standard scores between 90 and 110 describe an average performance. The standard score allows one to compare results of different subtests directly with each other.

About 36% of the test takers reach a standard score between 90 and 100, another 36% achieve a standard score between 100 and 110. About 14% of the test takers achieve a result between 70 and 89, another 14% achieve a result between 111 and 130.

2. What does the Percentile Rank stand for?

The **Percentile Rank** gives the percentage of test takers in the reference group whose scores are equal to or below the candidate's score. For instance, a percentile rank of 60 means that 60% of all test takers in the reference group have achieved the same or a lower result than the candidate; 40% of the test takers have therefore achieved higher scores.

The scale of the percentile rank covers the range from 1 to 100. If the percentile rank is between 31 and 70, the abilities measured are considered as average.

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3. What is the difference between Percentile Ranks and Standard Scores? What can the Percentile Rank and the Standard Score be used for best?

Standard scores and percentile ranks allow to compare test takers' results with each other. They thus form the basis for selecting candidates in a reasonable way.

The **Percentile Rank** allows to establish rankings and then choose candidates from a specific part of the ranking (e.g. only those test takers who achieved the 20% highest scores)

The **Standard Score** relates the result of one test taker to the average of all candidates. Thereby, test takers of a specific performance range can be selected (e.g. only test takers with above-average results).

As opposed to the standard score, differences in percentage do not allow to draw any conclusion concerning the degree of the difference between the underlying scores.

4. Which abilities do the respective subtests measure?

a) Core Test

Subtest "Solving Quantitative Problems" (SQP)

The subtest "Solving Quantitative Problems" provides practical problems to be solved by using basic arithmetic operations.
This test measures mathematical thought and the ability to solve basic mathematical problems. The level of the arithmetic operations to be performed is elementary.

Subtest "Inferring Relationships" (IR)

In the subtest "Inferring Relationships", each question consists of two pairs of words. Two of the four words are missing, and the test taker is to identify the matching words so that both pairs of words have an analogous relationship. This requires that the test taker finds the rule governing the analogy and selects the words accordingly.
This test measures logical linguistic thought. Test takers have to identify meaning, and generalise and abstract in order to find the rule. Eventually the rule has to be concretised in order to fill the gaps.

Subtest "Completing Patterns" (CP)

In the subtest "Completing Patterns", lines, circles, quadrilateral and other geometrical shapes are arranged in the fields of a matrix according to a specific rule. The test taker is to find the rule and to apply it by identifying the missing shape in the last field.
This test measures logical graphic thought. Language skills or educational background are irrelevant.

Subtest "Continuing Numerical Series" (CNS)

The subtest "Continuing Numerical Series" provides a series of numbers structured according to a specific rule. The rule is to be found and applied in order to identify the missing number.
This test measures logical numerical thought. Knowledge of the four basic arithmetic operations, that is, addition, subtraction, multiplication and division is sufficient to answer the questions.

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b) Mathematics, Computer Science and Natural Sciences Module (MCN)

Subtest "Analysing Scientific Interrelationships" (ASI)

The subtest "Analysing Scientific Interrelationships" presents texts and illustrations with natural sciences content on which questions are then posed.
This test measures how well the test taker can grasp and analyse simple natural sciences topics. It is also a matter of recognising interrelationships, separating important data from unimportant data, and drawing the right conclusions from the presented information. Relevant background information is provided.

Subtest "Understanding Formal Depictions" (UFD)

The subtest "Understanding Formal Depictions" involves transposing information from a text into a diagrammatic illustration ("flow chart") and vice versa.
This test, in one respect, measures the ability to transpose specific natural sciences' content into models and the ability to think in terms of formalised systems. In another respect, it measures critical thinking skills in the sense that the information provided has to be checked for correctness. What is more, this exercise type seeks to verify the existence of a basic understanding of natural sciences.

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