

PART C

105. Underscore the correct chemical name for each of the following substances.

- () 1. hypo
(sodium hypochlorite) (sodium thiosulfate)
() 2. marsh gas
(methane) (methanol) (trichloromethane)
() 3. rare earths
(actinide series) (lanthanide series)
() 4. salt peter
(potassium nitrate) (sodium nitrate)
() 5. T.N.T.
(trinitrophenol) (trinitrotoluene)

107. Column I lists enzymes and hormones. Column II lists the glands that secrete them. Place the number of the gland from Column II in the parentheses in front of the appropriate name in Column I.

- | COLUMN I | COLUMN II |
|---------------------|-----------------------|
| () 1. ACTH | 1. adrenal cortex |
| () 2. erepsin | 2. adrenal medulla |
| () 3. insulin | 3. gastric glands |
| () 4. parathormone | 4. intestinal glands |
| () 5. pepsin | 5. liver |
| () 6. ptyalin | 6. pancreas |
| () 7. rennin | 7. parathyroid glands |
| () 8. thyroxine | 8. pituitary gland |
| | 9. salivary glands |
| | 10. thyroid gland |

40 top and 260 honorable mention students in the United States each year. Not every one of the 20,145 students who took the examination this year completed all the requirements of the Search. Nearly a quarter of a million students have entered this competition since the Search's inception in 1942, but less than 19% have qualified. This year, 3,122 high school seniors completed all of the difficult requirements.

Crying Need for Scientists

Each year in the United States, there are more and more drums being beaten about the "crying need" for scientists. But almost unheard in this present-day din is the crying answer of the nation's young people. All across the nation, according to the Science Talent Search mentors, more and more high school students are showing an interest in science and in overwhelming numbers.

The Science Youth Program, administered by Science Service, shows that at present there are more than 400,000 boys and girls holding membership in more than 16,000 Science Clubs of America; that during the coming year more than 45,000 pre-college scientists will have worked on a science project for a science fair leading to the National Science Fair. These students represent a significant slice of the nation's young student body and a spearhead of the country's future scientists.

But having interested young scientists is only part of the answer. The other, and equally important part of the picture, is finding this talent and channeling it along the proper paths that best suit the student's ability and his desires. And in the United States it is done both democratically and at the grass roots level.

Not so in Russia. Inadvertently, we have been thrown into a scientific manpower race with the Russians. They appear to be winning the race in sheer weight of numbers. Last year, for example, they graduated twice as many engineers as did the United States. But their methods are different. They pick students for science careers and coddle them along. This is a much easier task in a nation where control is centralized and choice limited.

To win the race, if that is what we really want to do, we must still do it in the manner we have been using by permitting our young people to choose their own careers.

In this respect, the Science Talent Search

has more than proved effective. Students request the test through their teachers. The test itself represents a scientific method for seeking out those high school seniors interested who show the greatest aptitude for careers in scientific research. High school records throughout the country show that the test also serves as a trigger mechanism for getting students interested in science.

Ready to test yourself?

There are three parts to the short version, which is composed of the actual questions taken from this year's test. You should be able to complete it in 30 minutes. Time yourself so that you do not use more than one-half hour and try as best you can to answer all the questions.

Try the test first, score yourself by the answers shown on page 109, and then compare your results with those of 100 boy and girl contestants, selected at random, who answered the same 17 questions. Because questions 105 and 107 have multiple answers, a perfect score would be 28 for the 17 questions. If you find you have answered all the questions of this test correctly, you fared better than any of the 100 students. As a matter of fact, no student has ever answered correctly all the questions on the 2½-hour examination.

High Score Is 18

A high score on the sample test would be 18 or better. Of the 100 random selections, 12 students did this well or better. A low score would be nine or less. Fourteen students did this poorly. An average score in relation to the students' results would be between 10 and 17 correct answers.

Based on the results of the 100 samples, the easiest questions were 94, 95, 96, 105-2, 105-4, and 107-8. Each of these was answered by more than 70 of the 100 students. Questions 43, 44, 107-1, 107-2, and 107-7 were the hardest, with 26 or fewer students getting them right.

The most difficult question was 43, which was answered correctly by only 11 students, and the easiest, 96, answered correctly by 84 of the 100.

Do not be dismayed if you find you have a low score when you compare your results with those of the high school seniors. You are not dumb. The results do not necessarily reflect brightness. This is not an intelligence test, explain the psychologists who devised it. It is an aptitude test, designed to find those students with the

greatest aptitude for becoming research scientists.

The 40 high school seniors who come out on top in this year's Search will be in Washington from March 7 through March 11 for the Sixteenth Annual Science Talent Institute, where they will meet leading scientists and visit laboratories surrounding the capital city.

On their last day they will attend a final banquet at which time they will learn how the \$11,000 in scholarships is distributed. The scholarships can be used at any accredited college or university. The 40 winners are chosen by Dr. Harold A. Edgerton, New York psychologist; Dr. Stuart Henderson Britt, Chicago psychologist; and Dr. Rex A. Buxton, Washington psychiatrist.

To see the complete aptitude test, send ten cents in coin to Science Clubs of America, 1719 N St., N. W., Washington 6, D. C. Ask for the science aptitude test.

Science News Letter, February 16, 1957

METEOROLOGY

Electronic Computer Predicts Hurricanes

► AN ELECTRONIC computer has been used to predict the motions of hurricanes 24 hours in advance, a University of Chicago meteorologist reported.

Akira Kasahara told the American Meteorological Society meeting in New York that a new set of mathematical equations for predicting hurricane locations a day in the future averaged only 65 miles in error, compared to the present 100-mile error.

The double equation used by Mr. Kasahara is primarily for forecasting the movement of the storm's center. He plots the focus of the swirl, rather than using the center of low barometric pressure, as in older methods. The two can be ten miles apart. His equation takes into account both the intensity of the vortex and the influence of the larger air masses that steer the hurricane.

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