

Character Test in Edison Questions

Psychology

The Edison scholarship examination is not what psychologists would call primarily a test of aptitude or inborn bent for inventive work.

It combines the general information test made famous by Edison several years ago with the old-style scholastic examination in physics, chemistry, and mathematics. A novel feature of the examination consists of a few questions testing character and judgment. Testing character in this way rather than by testimonial is a modern development which has come into use along with the modern psychological examinations first brought into prominence by the Army Intelligence Tests.

No use was made of what is perhaps the latest method of examination, now used in college entrance, Civil Service, and employment tests of the newer sort. This is called the "short answer test". It saves the applicant work and at the same time allows precise and uniform grading of all the examination papers. Such new

style test questions can be answered by "Yes" or "No", or by marking one of several given possible answers. Psychologists are interested in the fact that Edison did not use this method, as it is considered the simplest and most efficient form. It also makes the test independent of the person's ability to express himself in English and, since the scientific ability or inventive genius is not necessarily related to fluency in English composition, it would have eliminated a handicap to some.

Although many mechanical ingenuity tests, such as assembling block and wire puzzles or putting together simple pieces of machinery, have been devised, the Edison test did not, so far as announced, include similar problems. The tests made with physical apparatus rather than pencil and paper have been found to be valuable in picking those with imagination and reasoning ability useful in careers of invention and mechanical construction.

The first part of the Edison scholarship examination contains questions of the sort with which any school boy is familiar. They might have been taken from any college examination or from the entrance examinations for Annapolis or West Point. The following is typical:

"Define work, energy, and power, and give an illustration of each. How does weight differ from mass? How does force differ from energy? Would a body weigh more or less on the moon than on the earth? Why? Where would bodies weigh nothing?"

The questions in part two are more novel. They are designed to give the examiner an insight into the character and mental make-up of the boy examined. Some test ingenuity. Some measure ethical judgment. Some are designed to bring out the boy's ability to look ahead into the future. Here are some that probably no two people would answer in the same way.

"What new (*Turn to next page*)

Test Your Inventive Bent

Psychology

Do you have the "divine spark" necessary for a great scientist or inventor, of the Edison type? Psychologists believe that scientific aptitude is born in specially gifted individuals instead of being acquired by training. Perhaps, if you had the opportunity, you too could be an inventor or scientific wizard.

Here is a test that you can try on yourself. It is especially prepared by a Science Service specialist, but it is similar to other tests devised by psychologists to single out the few embryo scientists from among the thousands of "just ordinary folks". Compare it and your ability to do it with your success in doing the tests that Mr. Edison gave the 49 aspirants for the Edison scholarship.

All you need is a pencil and a few minutes of time. Do not look at the answers before you finish. Anyone can take this test. It is a measure of your natural "bent", not any special training or technical knowledge.

Ready? Begin!

1. Which of the following is the *best* definition of a thermometer? (1) a glass tube containing mercury. (2) an instrument used in laboratories. (3) an instrument, usually employing mercury, for measuring temperatures. (4) an instrument in common use in

many homes and offices.

2. How many people in the United States earn their living from science today?

3. Suppose you were making an experiment and wished to know very exactly the weight of the substance you were using. You weighed it several times and got the following results: 12.25 oz., 15.75 oz., 12.50 oz., 12.25 oz., 12.00 oz. What is most probably the correct weight?

4. Suppose you wished to know the contents of a tank from which several of your co-workers were drawing supplies of a certain liquid. You could not actually measure the liquid but you have the following facts at your disposal. Which of the facts would be important for your computation? (1) Total capacity of tank. (2) Number of persons using liquid. (3) Number of days since tank was filled. (4) Total amount drawn from tank since it was full. (5) Average daily evaporation. (6) Density of the liquid. (7) Frequency with which tank is filled.

5. Read each of the following statements and decide whether it is consistent throughout. (a) Moisture causes wood to swell. Today is a very damp day and therefore the wooden peg can be more easily driven into the

hole made for it. (b) Accuracy is essential to scientific work. Measurements made by different individuals seldom agree exactly. In order to insure accuracy, scientific data should be checked by more than one person.

6. Suppose two handbooks differed as to the best procedure for working out a certain experiment that you wanted to conduct. If you had plenty of time which of the following would you do? (1) Use a compromise procedure. (2) Go to a good technical library and try to find a third handbook. (3) Forget the handbooks and work out a procedure of your own. (4) Try out both the methods recommended and find out which is best. (5) Call up some expert on the subject and ask him for the best procedure. (6) Decide on one of the methods given and then follow it, ignoring the other.

7. Suppose you were driving in the country and your radiator sprung a leak. You had no equipment for repairing it, and there was no garage within miles, nothing but a small refreshment stand. What could you do, if anything, to lessen the leak until you got back to town?

Have you finished? If so, turn to page 83 for the answers.

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