

TOPEC エンジニアリング サンプル問題  
Tests of Professional English Communication  
Fundamental Engineering English Test

<Structure & Vocabulary>

This is a test for measuring your English structure and vocabulary. Read the question carefully and fill in the blank with the best answer from the four choices given.

Sample 1:

The centripetal force on an artificial satellite is supplied by the \_\_\_\_\_ attraction of the earth.

1. electrical
2. magnetical
3. gravitational
4. merginal

Sample 2:

This is used for measuring the thickness of materials and is called a \_\_\_\_\_.

1. micrometer
2. mounting screw
3. milling machine
4. measuring pin

<Reading>

This is a test for measuring your English reading comprehension. In this section you will be given six passages to read. Read the passages carefully and answer the following questions. Select the best answer for each question from the four choices given.

Sample 3:

If steel is heated to a temperature between 760 and 870 degrees Centigrade, an iron-carbon alloy called austenite is formed. If the heated steel is then cooled rapidly a

substance resembling ferrite called martensite is formed.

Martensite is extremely hard but the change from austenite to martensite affects the volume and the stresses that develop may crack the metal if the cooling is done too quickly. A way around this problem is to remove the steel from the cooling bath (usually water or oil) when the temperature drops to 290 degree Centigrade, the point at which martensite begins to form.

A. What hardens the steel?

1. The formation of austenite.
2. The formation of martensite.
3. The change from martensite to austenite.
4. The stresses built up within the metal.

B. Does martensite form as soon as the metal is cooled?

1. No, only after the metal has cooled about 500 degrees.
2. No, only after the metal has cooled about 300 degrees.
3. Yes, but it stops forming after the temperature drops 500 degrees.
4. Yes, but it stops forming after the temperature drops 300 degrees.

Answers: Sample 1,3 Sample 2,1 Sample 3 ( A 2,B 2 )