

## **Written part of JA001**

**B1 level of Common European Framework for Languages**  
**maximum score – 65 points, pass mark – 33 points**

### **LISTENING (max. 10 points)**

Task 1 – Listening to 3-5minute recording, completing answers (words or phrases) to 10 questions (10 points)

### **GRAMMAR AND VOCABULARY (max. 25 points)**

Task 2 - Filling in gaps in the text with individual words (8 points)

Task 3 – Forming questions about underlined information in a sentence (5 points)

Task 4 – Completing sentences with correct connector (2 points)

Task 5 – Word formation – completing a sentence with correct form of a word (5 points)

Task 6 – Sentence transformations (5 points)

### **READING (max. 20 points)**

Task 7 – Reading – identifying synonyms in a text (7 points)

Task 8 – Completing a text with parts of sentences (7 points)

Task 9 – Multiple choice – choosing the right reference word (6 points)

### **WRITING (max. 10 points)**

Task 10 – Writing an academic email (10 points)

**Tasks 2, 7, 8** focus on **English for Specific Purposes**, i.e. the topics of texts are different for different fields of study (biology, chemistry, mathematics, physics, geography, and geology) but the form of the task is identical

## SAMPLE TASKS

**Task 1** listening (English for academic purposes – the same listening task for all science students)

source: <https://ed.ted.com/lessons/how-big-is-the-ocean-scott-gass>

1. There is only one ocean consisting of five component .....
2. The ocean covers the area of ..... square kilometres.
3. The ocean currently holds ..... billion cubic kilometres of water.
4. The ocean contains over ..... of the world's biosphere.
5. The Midocean Ridge is ..... longer than the Andes.
6. Mauna Kea's sides plummet beneath the water surface for ..... metres.
7. The world's deepest canyon is called The ..... Deep.
8. The ocean is home to the greatest geological .....
9. Roughly 50% of the world's population live within 100 kilometres off the .....
10. Evidence of human ..... is seen in every part of the ocean.

**Task 2** (specialized texts for physics students)

*Complete the text with the words given below. There are 3 words too many.*

<i>questioned</i>	<i>deposits</i>	<i>focus</i>	<i>estimated</i>	<i>crystalline</i>	<i>conventional</i>	<i>resembles</i>
<i>samples</i>	<i>occupies</i>	<i>contrasts</i>	<i>crystallized</i>			

Found under the ocean floors and below polar regions, methane hydrate is a **1...** form of natural gas and water. Methane hydrate **2...** ice, but it burns if ignited. Until recently, it was looked upon as a nuisance because it sometimes plugged natural gas lines in polar regions.

Now this frozen gas-water combination is the **3...** of research and exploration. Methane hydrate **4...** as much as 50% of the space between sediment particles in **5..**obtained by exploratory drilling. It has been **6...** that the energy locked in methane hydrate amounts to twice the global reserves of **7...sources** (coal, oil, and natural gas).

Methane hydrate may be an energy source in the future, but for now, there are many problems to solve, such as finding and drilling into **8....** of methane hydrate and separating the methane from the water. Care must be taken so that methane does not escape into the atmosphere. Methane, a "greenhouse" gas, is 10 times more effective than carbon dioxide in causing climate warming.

**Task 3** (English for academic purposes – the same listening task for all science students)

**Make questions about the underlined parts of sentences. They are the answers to your questions.**

1. The categories are listed in Table 3.
2. This system has been used for several years, but we believe it is out of date.
3. We found that 20 samples were contaminated.
4. They will finish the research next year.
5. Hot weather allows high ozone layers to build up.

**Task 4** (English for academic purposes – the same listening task for all science students)

**Choose the right connector.**

1. We decided not to use this apparatus. It wasn't suitable and ..... it was too expensive.  
A for example B even if C although D besides
2. Road safety is an important issue ..... it helps to protect lives.  
A so B beside C because D if

**Task 5** (English for academic purposes – the same listening task for all science students)

**Uses the word at the end of the sentence to complete it, change the form of the word. Do not use -ing forms.**

1. This species is ..... to Easter Island. CHARACTER
2. Pesticides are a major source of ..... . POLLUTE
3. Our results were in ..... with the literature. AGREE
4. Let's take a look at where we get our water and how it is ..... . PURE
5. Industry-driven ..... threatens the world's tropical forests. FOREST

**Task 6** (English for academic purposes – the same listening task for all science students)

***Transform the sentence – paraphrase it but keep the original meaning. You must use given number of words to complete each gap.***

1. You will not be able to attend the course if you don't have basic knowledge on genetics.  
You will not be able to attend the course \_\_\_\_\_ have basic knowledge on genetics. (2 words)
2. It is important to keep the overall balance of energy intake.  
We \_\_\_\_\_ keep the overall balance of energy intake. (2 words)
3. You cannot overdose water-soluble vitamins.  
Water-soluble vitamins cannot \_\_\_\_\_. (2 words)
4. First, make sure your assignment has no typing mistakes, then submit it.  
Before \_\_\_\_\_ make sure it has no typing mistakes. (3 words)
5. We couldn't conduct the experiment because it was very dangerous. (3 words)  
The experiment \_\_\_\_\_ to conduct.

**Task 7** (specialized texts for physics students)

***Find in the text below words that correspond with synonyms or definitions below. Each definition describes one word only! The words in the text appear in the order suggested by the order of definitions.***

1. expression, sign, evidence
2. recognition, awareness
3. differ
4. employs, makes use of
5. become smaller or shorter
6. extending, stretching out from one point to another
7. use, employment

Temperature is a relative indication of hotness or coldness. On the molecular level, we find that temperature depends on the kinetic energy of the molecules of the substance. In general, the greater the temperature of a substance, the greater the motion of its molecules.

Humans have temperature perception in their sense of touch. However, this perception is unreliable and may vary a great deal among different people. Our sense of touch doesn't enable us to measure temperature accurately or quantitatively. The quantitative measurement of temperature is accomplished through the use of a thermometer, an instrument that utilizes the physical properties of materials for the purpose of accurately determining temperature. The temperature-dependant property most commonly used to measure temperature is thermal expansion. Nearly all substances expand with increasing temperature and contract with decreasing temperature. The most important exception to this rule is water in the temperature range near its freezing point.

The change in length or volume of a substance as a result of heat and temperature changes is a major factor in the design and construction of items ranging from steel bridges and automobiles to watches and dental cements. The cracks in a highway are designed so that in summer the concrete will not buckle as it expands because of the heat. Expansion joints are designed into bridges for the same reason. The Golden Gate Bridge across San Francisco Bay varies in length by about 1 meter between summer and winter.

Heat expansion characteristics of metals are used to control such things as the flow of water in radiators and the flow of heat in homes through the operation of thermostats.

**Task 8** (specialized texts for physics students)

**Complete the text below with the phrases from A to G**

- A. *is especially useful*
- B. *allow different tissues such as organs and bone to be „seen“ or distinguished*
- C. *also commercially available*
- D. *placed in a liquid bath through which ultrasound is passed*
- E. *sometimes an alternative to*
- F. *waves have less energetic vibrations*
- G. *on the same order of magnitude as*

Ultrasound is the term used for sound waves with frequencies greater than 20,000 Hz. These waves cannot be detected by the human ear, but the audible frequency range for other animals includes ultrasound frequencies. For example, dogs can hear ultrasound, and ultrasonic whistles used to call dogs don't disturb humans. Ultrasonic whistles are used on cars to alert deer to oncoming traffic so that they won't leap across the road in front of cars. Bats use ultrasonic sonar to navigate at night and to catch insects.

An important use of ultrasound is in examining parts of the body. Ultrasound is **1.** \_\_\_\_\_ potentially harmful X-rays. The ultrasonic waves **2.** \_\_\_\_\_ by bouncing waves off the object examined. The waves are detected, analyzed, and stored in a computer. An echogram is then reconstructed. X-rays may harm an unborn fetus and cause birth defects, but ultrasonic **3.** \_\_\_\_\_ and have given no evidence of harming a fetus.

Ultrasound also can be used as a cleaning technique. Minute foreign particles can be removed from objects **4.** \_\_\_\_\_. The wavelength of ultrasound is **5.** \_\_\_\_\_ the particle size, and the wave vibrations can get into small crevices and „scrub“ particles free. Thus ultrasound **6.** \_\_\_\_\_ in cleaning objects with hard-to-reach recesses, such as rings and other jewelry. Ultrasonic cleaning baths for false teeth are **7.** \_\_\_\_\_, as well as electronic toothbrushes. The latter transmits 1.6 Mhz wave action to the teeth and gums to help remove bacterial plaque. Also, there are „sonic“ toothbrushes that vibrate with a frequency of 18 kHz.

**Task 9** (English for academic purposes – the same listening task for all science students)  
**Choose the right word for each gap.**

**Causes and consequences of desertification**

In general, desertification is caused by variations in climate and by wrong land-management practices in dry land environments. By 1 \_\_\_\_\_ very nature, arid and semiarid ecosystems are characterized by sporadic or variable rainfall. Thus, climatic changes such as those 2 \_\_\_\_\_ result in extended droughts can rapidly reduce the biological productivity of those ecosystems. Such changes may be temporary, lasting only a season, or 3 \_\_\_\_\_ may persist over many years and decades. On the other hand, plants and animals are quick to take advantage of wetter periods, and productivity can rapidly increase during 4 \_\_\_\_\_ times. Since dry land environments are used for a variety of human purposes, the various activities undertaken in 5 \_\_\_\_\_ can intensify the problem of desertification. The consequences affect several areas including irrigated croplands, 6 \_\_\_\_\_ soils are often degraded by the accumulation of salts, and grazing lands, which are harmed by overgrazing, soil compaction, and erosion.

- |              |          |        |             |
|--------------|----------|--------|-------------|
| 1. A whose   | B this   | C its  | D their     |
| 2. A changes | B that   | C this | D processes |
| 3. A other   | B then   | C they | D any       |
| 4. A this    | B these  | C any  | D their     |
| 5. A them    | B places | C this | D times     |
| 6. A all     | B that   | C its  | D whose     |

**KEY**

**TASK 1:**

1. basins    2. 360    3. 1.3    4. 99%    5. 10 times    6. 5800  
7. Challenger    8. features    9. Coastline    10. influence

**TASK 2:**

Found under the ocean floors and below polar regions, methane hydrate is a **crystalline** form of natural gas and water. Methane hydrate **resembles** ice, but it burns if ignited. Until recently, it was looked upon as a nuisance because it sometimes plugged natural gas lines in polar regions.

Now this frozen gas-water combination is the **focus** of research and exploration. Methane hydrate **occupies** as much as 50% of the space between sediment particles in **samples** obtained by exploratory drilling. It has been **estimated** that the energy locked in methane hydrate amounts to twice the global reserves of **conventional** sources (coal, oil, and natural gas).

Methane hydrate may be an energy source in the future, but for now, there are many problems to solve, such as finding and drilling into **deposits** of methane hydrate and separating the

methane from the water. Care must be taken so that methane does not escape into the atmosphere. Methane, a „greenhouse“ gas, is 10 times more effective than carbon dioxide in causing climate warming.

### TASK 3

- 1 *Where are the categories listed?*
- 2 *How long has this system been used?*
- 3 *How many samples were contaminated?*
- 4 *When will they finish the research?*
- 5 *What allows high ozone layers to build up?*

### TASK 4

1D 2 C

### TASK 5

1 characteristic 2 pollution 3 agreement 4 purified 5 deforestation

### TASK 6

1 unless you 2 have to/ought to 3 be overdosed 4 submitting your assignment 5 was too dangerous

### TASK 7

Temperature is a relative **1. indication** of hotness or coldness. On the molecular level, temperature depends on the kinetic energy of the molecules of the substance. In general, the greater the temperature of a substance, the greater the motion of its molecules.

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### TASK 8

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#### TASK 9

1 their, 2 that, 3 they, 4 these, 5 them, 6 whose