



Hungarian Geographical Contest

Written Test

12. 12. 2015.

Password:

Date of Birth:



www.prospecto.hu



Question and Answer Booklet

Instructions:

1. Fill in your password on the front page of this Booklet and on the top of the pages as well.
2. The test consists of 6 sections.
3. A maximum of 100 points can be earned.
4. Only the required number of answers (reasons, examples etc.) will be accepted in the order as they are written. For instance, if the question asks for 2 reasons and you give more than 2, only the first 2 reasons will be marked.
5. All questions should be answered in the spaces provided in this booklet.
6. You can find all the sources (Maps, Figures) referred to in the Source Booklet.
7. You may use a calculator during the test.
8. You have 180 minutes available to answer all questions.

Good luck!

Section 1 – The Old Man and the Sea (15 points)

1. Study **Source 1a** in the Source Booklet, which shows the location of the Great Pacific Garbage Patch! (5 points)

a. Name three natural reasons, which **cause and form ocean circulation and current movement!** (3 points)

1:(1 p)

2: (1 p)

3:(1 p)

b. Name two **natural ways of transportation** which help garbage to reach the middle of the ocean from land! (2 points)

1:(1 p)

2:(1 p)

2. Study **Source 1b** in the Source Booklet about the environmental effects of the debris. (10 points)

a. Name the **negative effects of marine debris!** Write three effects in each field! (3 points)

	Negative effects
Ecological	1. 2. 3.
Socio-Economic	1. 2. 3.

Password:.....

b. Explain why **ocean pollution** is a global problem? (3 points)

.....

.....

.....

.....

.....

c. Give some possible solutions how societies can **prevent or reduce** ocean pollution! (4 points)

.....

.....

.....

.....

.....

.....

Section 2: The Lost World (14 points)

1. Study **Source 2a** in the Source Booklet! Identify the **three main types of erosion** caused by water! On which climate is this erosion process more effective? Why? (4 points)

A.(1 p)

B.(1 p)

C.(1 p)

Climate type: (0.5 p)

Reasons:(0.5 p)

2. Study **Source 2b** in the Source Booklet! Name the **US national park** where these pictures were taken! (1 point)

..... National Park

3. Study **Source 2c** in the Source Booklet! In the first weeks of October there were record rainfalls in this area. Describe the effects of heavy rain on the landforms, landscape! Name two of the **natural hazards** that could appear in the area! (4 points)

a. Effects:

.....

.....

.....(3 p)

b. Natural hazard 1:(0.5 p)

Natural hazard 2:(0.5 p)

4. Name that **extreme climatic phenomenon** that cause the heavy rains in this region! Describe the process and write two examples of its other effects! (5 points)

a. Name of phenomenon: (1 p)

Password:.....

b. Description of the process:

.....
.....
.....
..... (3 p)

c. Two further effects:

..... (1 p)

Section 3 – The Magic Mountain (15.5 points)

1. Study **Source 3a** in the Source booklet! Year by year, more and more climbers reach the summit of Mount Everest. If the annual total climbing deaths are plotted, an increasing trend is also observed. Furthermore, there are peaks of high death rates, and if the 2015 data would be shown, an even higher annual death toll (19) would be noticeable (5 points).

- a. Account for the **increasing number of successful ascends!**(1 p)
- b. Suggest reasons for the **increasing fatality rate!**(1 p)
- c. Define the reason for the **high total deaths in 2015!**(1 p)
- d. Determine the **triggering factor** for 2015 natural phenomena in the Everest region:
.....(1 p)
- e. Identify the **natural phenomenon** responsible for the fatality peaks!.....(1 p)

2. Many of you must have seen the movie ‘Martian’. Mars, the red planet possesses many interesting geomorphologic features, like the Olympus Mons. Study **Source 3b** in the Source booklet! You can see the Olympus Mons on the picture, which is about three times higher than the Everest, and would cover a two-third of the land area of France (5 points).

- a. Define the **origin of Olympus Mons**, how was the mountain created.
..... (1 p)
- b. Name **two similar mountains** on Earth similar to Olympus Mons.
Mountain 1:(0.5 p)
Mountain 2:(0.5 p)

3. *At the beginning of the movie the rocket is almost tipped over by a windstorm of 110 kmph.*

a. **Justify or refute** the statement for Mars!

..... (1 p)

b. In the movie, the astronauts walked the same way as on Earth. Discuss **the feasibility of this statement**. If you are standing at 5'9", explain whether you would be able or not to dunk on Mars.

..... (1 p)

c. If you had run out of oxygen on Mars, **assess the possibilities** to replenish your oxygen supply. Name at least two options!

..... (1 p)

4. *Study **Source 3c** in the Source Booklet! The four volcanoes in the photos are located in the same mountain range. The volcano on the lower left photo holds the record for the highest annual snow pack, about 29 meters of snow in a single winter season. The volcano in the upper right corner had a large catastrophic eruption on May 18, 1980 (5.5 points).*

a. Name the **mountain range** where these volcanoes are located at!

..... (1 p)

b. Explain the reason for this **large snowpack** (Picture B)!

..... (1 p)

c. Describe the **origin of these volcanoes**!

..... (1 p)

d. Define the **specific name** for this kind of volcano!

..... (1 p)

e. List at least **three types of rocks** associated with these volcanoes!

.....(1.5 p)

Section 4 – The Lord of the Flies (17 points)

1. Study **Source 4** in the Source Booklet and answer the following questions!

a. Describe the **characteristics of the countries’ population** for each population pyramid! (6 points)

	Country A	Country B	Country C
Births and deaths			
Type of population growth			
Approximate median age			
Men/women ratio			

b. Locate **cluster of countries** on the map given below with similar population features as it can be seen on the population pyramids! Mark one cluster for each population pyramid! Draw a circle framing to mark them on the map! (3 points)



Password:.....

2. *There is a bigger city in a country with a population that could be depicted with population pyramid B. Your task is to determine **the orientation of the city's development plan**. You have several instruments you can choose from, like raising new buildings, subsidize certain public services. With the help of the information provided on population pyramid B, outline your plans for the city and also justify them as well in a maximum 10 sentences long argument. (8 points)*

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Section 5 – 80 Days around the World (19 points)

1. Study Source 5 in the Source Booklet. (7 points)

a. Fill the table with the right country code! (3 points)

	Country code (1,2,3,4)
This country with no coastline has a relatively stable economy and corruption is not common	
Clothes are the most important products for export	
This country has a large labour force but workers' circumstances are not very good	
This country is a neighbour of a big economic power	
This country's labour force is highly skilled, but rather limited in numbers.	
The country's population is not exceeding 50 million people and its economy is highly dependent on world crude oil price	

b. Name these countries! (4 points)

Country1:.....(1 p)

Country2:.....(1 p)

Country3:.....(1 p)

Country4:.....(1 p)

2. *Imagine you are a decision maker of a big company and you would like to **relocate** some part of your company's economic activity to a new country! (12 points)*

a. Give reasons for your chosen country with the help of **Source 5** in the Source Booklet and name the country! You can choose one country twice! (6 points)

Decision maker as a...	Reason 1	Reason 2	Chosen country (write code)
football boot manufacturer company			
pharmaceuticals company			
oil rig company			

b. Explain why investments are **beneficial and disadvantageous for host country!** (6 points)

	Positive impacts (+)	Negative impacts (-)
Socio-Economic	1. 2. 3.	1. 2. 3.

Section 6 – The Tale of Two Cities (19.5 points)

1. Name two advantages and two disadvantages of **each type of transportation**, which is listed in the table below! (8 points)

	Advantages		Disadvantages	
Road traffic				
Rail transport				
Water carriage				
Air traffic				

2. Two cities, Ciudad el Conquistador and Castillo Blanco are located on a plain at a distance of 500 km as the crow flies. At present there is no transport connection between them, however there would be a demand for it. According to estimates 6 million people and 15 million tons of goods would exchange between the two cities per year. **Calculate the transportation facilities separately for passenger and cargo traffic** (each element of the infrastructure may supply only one function) between Ciudad el Conquistador and Castillo Blanco, **which can be built for the lowest price**. Use the table below and your own knowledge. Ciudad el Conquistador lies 100 km while Castillo Blanco 150 km away from the sea. The land connection can be calculated in air kilometres. (4 points)

	Investment costs	Passenger capacity (million people/year)	Cargo capacity (million tons/year)
Highway	€ 40 million/100 km	2.5	4
Railway	€ 45 million/100 km	3	7.5
Water traffic	€ 50 million/dock	0.8	16
Air traffic	€ 80 million/terminal	2	0.4

Do your calculations here:

- a. Cheapest for passenger traffic:(1 p)
- b. Elements of infrastructure to be built:(1 p)
- c. Cheapest for cargo traffic:(1 p)
- d. Elements of infrastructure to be built:(1 p)

3. *How much would be the **maximum capacity** of these infrastructures? (1 points)*

- a. Passenger traffic:(0.5 p)
- b. Cargo traffic:(0.5 p)

4. According to further estimates after 5 years passenger traffic will increase to 7.8 million people/year and cargo traffic to 18.5 million tons/year. What **additional investments** would satisfy the future needs, if the diversification of transport facilities will become priority? What costs will it have? (4 points)

Do your calculations here:

- a. Passenger traffic:(1 p)
- b. Costs:(1 p)
- c. Cargo traffic:(1 p)
- d. Costs:(1 p)

5. Study **Source 6** in the Source Booklet! You can see two other cities – Muntanya Darrera and Pueblo Campo Plano. The distance between them is also 500 km. The politicians decided on the construction of a highway among the cities. The engineers planned two different paths for it. “Path A” would connect the cities as the crow flies, and it would go through the mountain with a 50 km long tunnel. This highway would be all in all 500 km long. “Path B” would bypass the mountain and cross three rivers with a 3-km, and two 1-km-long bridges. This highway would be all in all 800 km long. Calculate and decide, which is the better path for the highway and why? Use the following table, map and your own knowledge. (2.5 points)

Cost of highways:	€ 400,000/km
Cost of bridges:	€ 2,000,000/km
Cost of tunnels:	€ 2,960,000/km

Do your calculations here:

- a. “Path” would be better because,.....
 (2.5 p)