Question 1

a) With the help of Figure 1, explain how the hot temperatures in the inner and outer core of the earth cause earthquakes and volcanoes.

Figure 1
b) Two volcanoes marked with the letters A and B are shown on the map of the Mediterranean region (Figure 2). Underline the name of these two volcanoes in the following table:

<table>
<thead>
<tr>
<th>Volcano A</th>
<th>Santorini / Vesuvius / Vulcano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volcano B</td>
<td>Stromboli / Lipari / Etna</td>
</tr>
</tbody>
</table>

Figure 2: Map of the Mediterranean region

c) Figure 3 and Figure 4 show two volcanoes. Which figure shows an active volcano?

Figure ______.

![Figure 3](image3.png)  ![Figure 4](image4.png)

Figure 3

Figure 4

d) Give the meaning of:

Active volcano: ____________________________________________________________

Extinct volcano: __________________________________________________________
e) Why are there many active volcanoes in the Mediterranean region?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

(3)

f) Complete the diagram to show the internal structure of a volcano. Label your diagram with the following terms:

![Diagram of a volcano with labeled parts: magma chamber, main vent, lava, pyroclastic flow]

(g) A number of fold mountains are marked with the letters C, D and E on the map of the Mediterranean region (Figure 2). Choose two groups of fold mountains and write their names in the following table:

<table>
<thead>
<tr>
<th>Mountains C</th>
<th>Mountains D</th>
<th>Mountains E</th>
</tr>
</thead>
</table>

(2)

h) Why are there many fold mountain ranges in the Mediterranean region?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

(3)
**Question 2**

With the help of figure 5, answer the following questions:

![Figure 5](Earthquake_of_Force_8_on_Richter_Scale_hits_Turkey_Fear_of_aftershock.png)

a) Write down three effects that an earthquake of Force 8 on the Richter Scale may have had on Turkey.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

(3)

b) What is an aftershock?

______________________________________________________________________________

(1)

c) Why do people fear an aftershock?

______________________________________________________________________________

(2)

d) Which of Figure 6 and Figure 7 show the instrument that measures the strength of an earthquake?

Figure ________

(1)

![Figure 6](Earthquake_meter.png)  ![Figure 7](Weather_station.png)
e) Mark with a ✓ the name of the instrument that measures the strength of an earthquake:

<table>
<thead>
<tr>
<th>Instrument</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barometer</td>
<td></td>
</tr>
<tr>
<td>Seismograph</td>
<td></td>
</tr>
<tr>
<td>Mercalli Scale</td>
<td></td>
</tr>
</tbody>
</table>

(1)

f) Name a country in the Mediterranean region, other than Turkey, that is often hit by earthquakes.

________________________

(1)

g) Mark this country on the map of the Mediterranean region (Figure 2 on page 2).

(1)

h) Write two ways how you should behave if you were caught in an earthquake.

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

(2)

**Question 3**

a) With the help of Figure 8, explain how the Perched Aquifer (Upper Water Table) of the Maltese Islands is formed.

![Figure 8](image)

Figure 8

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

(3)
b) A pumping station is shown in Figure 8. Briefly explain what goes on in a pumping station.
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
(3)

c) Briefly explain why the aquifer is important for the Maltese Islands.
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
(3)

d) Read the following passage and answer all the questions that follow it:

"Today dad asked me to help him wash his car. He took the car out of the garage and parked it in the road. I got some buckets to fill them up with water from the well but dad told me that we would be washing the car with a hose pipe because that would take less time. He attached the hose pipe with the tap of the water main. The water pressure was so strong that the dirt came off the car without any effort! The water coming from the car was very dirty and had black shiny patches. As it continued to flow along the road side, it looked like a black river!"

i) Mention two ways how this family is wasting water.
____________________________________________________________________________
____________________________________________________________________________
(2)

ii) Mention two ways how this family could make better use of water to wash the car.
____________________________________________________________________________
____________________________________________________________________________
(2)

iii) Dirty water from the car could pollute the aquifer. Explain how this could happen.
____________________________________________________________________________
____________________________________________________________________________
(2)
e) Figure 9 shows different ways how the water of the aquifer can be polluted. Explain two of these ways.

Figure 9

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Question 4

a) In Column B write the process of the water cycle described in Column A. Choose from the following terms:

<table>
<thead>
<tr>
<th>evaporation</th>
<th>condensation</th>
<th>rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>spring</td>
<td>aquifer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water pools in the road dry up.</td>
<td></td>
</tr>
<tr>
<td>Yesterday there was a storm with thunders.</td>
<td></td>
</tr>
<tr>
<td>In the morning it was quite foggy.</td>
<td></td>
</tr>
<tr>
<td>In the area of Ġnejna there is water flowing on the surface.</td>
<td></td>
</tr>
<tr>
<td>The farmer pumps water from under the ground.</td>
<td></td>
</tr>
</tbody>
</table>

b) Figure 10 shows the most common type of rainfall in Malta. Colour figure 10 with the colours as explained in the key:

Figure 10

<table>
<thead>
<tr>
<th>Warm air</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold air</td>
<td>Blue</td>
</tr>
<tr>
<td>Land</td>
<td>Grey</td>
</tr>
</tbody>
</table>
c) Underline the correct name of the rainfall type shown in figure 10:

<table>
<thead>
<tr>
<th>Relief</th>
<th>Frontal</th>
<th>Convectional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1)

d) The following weather report has some missing words. Explain how frontal rain forms by filling the blanks with some of the following terms:

- thunder
- cold
- heat
- rises over
- hail
- warm
- fine
- sinks under

“During the day _______________________ air coming from over Europe is expected to move towards the Mediterranean region where it will meet with ______________________ air coming from over Africa. When the warm air ______________________ the cold air, it will cause rainfall with the possibility of ______________________. The very low temperatures may also cause ______________________.

(5)

**Question 5**

Use the map of the world (Figure 11) to answer the following questions.

Figure 11: Map of the world

a) On the map of the world (Figure 11) draw and name the **Equator (0°)**.

(1)

b) On the map of the world (Figure 11) draw and name the following lines of longitude.

- The Prime Meridian (0°)
- The International Date Line (180°)

(2)
c) On the map of the world (Figure 11) draw a line of latitude and a line of longitude that pass over the Maltese Islands. (2)

d) On the map of the world (Figure 11) mark and write the name of the largest hot desert in the world. (2)

e) Write the name of a country that is partly covered by the largest hot desert in the world.

_________________________________ (2)

f) On the map of the world (Figure 11) mark and write the name of another hot desert in the world. Choose one from the following deserts:

- Arabian Desert
- Kalahari Desert
- Australian Desert
- Californian Desert
- Thar Desert
- Atacama Desert

(2)

Question 6

a) The graph in Figure 12 shows the mean monthly rainfall and temperature of a hot desert. With the help of this graph, describe the mean rainfall and temperature of a hot desert.

![Climate graph of a hot desert](image)

Figure 12

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

(3)
b) Label figure 13 with the following terms:

- oil
- oil well
- water
- impermeable rock
- permeable rock

![Diagram of oil well](5)

Figure 13

(5)

c) Write the following sentences in the correct order to explain what happens to oil after it is pumped from under the desert.

- Oil is transported to the ports through pipelines.
- Refined oil products are exported.
- Oil is transported to other countries by tankers to be refined.
- Products of oil such as petrol and diesel are produced in the refinery.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

(4)
d) Figure 14 shows examples of desert vegetation. Tick (✓) the five characteristics that help desert plants to survive in the hot deserts.

<table>
<thead>
<tr>
<th>Tall trees</th>
<th>Waxy leaves</th>
<th>Store water in branches</th>
<th>Roots are short and spread out</th>
<th>Short trees</th>
<th>Small leaves</th>
<th>No roots</th>
<th>Large leaves</th>
</tr>
</thead>
</table>

Figure 14

(5)

e) Explain how thorns help cactus plants to survive in hot deserts.

____________________________________________________________________________
____________________________________________________________________________

(2)

f) Figures 15, 16, 17 and 18 show some tourist attractions from around the world. Write the figure number that shows two attractions from the Sahara Desert.

Figure _____ and Figure _____

(2)