Earth Sciences

First Question:
(A) Underline the correct answer from those between the brackets for each of the following:
1- The first type of rocks which was formed in the earth crust and it is called the mother of rocks. These are .............. rocks
   (igneous – sedimentary – organic – metamorphic )
2- One of the primary geological structures in the earth's crust rocks are ..............
   (faults – folds – ripple marks – joints )
3- A mineral which is used in the cement manufacture and its hardness reaches  is ....
   (hematite – calcite – galena – quartz )
4- The science which studies the remains of living organisms, that can be found in the sedimentary rocks and by which we can determine the geologic age of these rocks is ............
   (Structure geology – Physical geology – Stratigraphy – Paleontology )
5- On adding water to anhydrite minerals, it turns into.............. minerals.
   (Kaolinite - Gypsum - Halite – Calcite )

(B) Choose from group (B) what is matching with each in group (A).
Put the letter indicating scientific term of group(B) between brackets in group (A).

<table>
<thead>
<tr>
<th>Group (A)</th>
<th>Group (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) It can make its food at depth 15 meters in sea water.</td>
<td>(a) Temporary vegetation</td>
</tr>
<tr>
<td>2) Places provide food for cattle herds which a man depends on as a protein source for food.</td>
<td>(b) Permanent vegetation</td>
</tr>
<tr>
<td>3) Annual plants that appear after rains in winter and disappear by drought in summer.</td>
<td>(c) The natural grazing</td>
</tr>
<tr>
<td>4) Places for protecting rare species that are exposing to extinction.</td>
<td>(d) Brown algae</td>
</tr>
<tr>
<td>5) Microscopic organisms that take their food from the dead bodies.</td>
<td>(e) The natural protectorates</td>
</tr>
<tr>
<td></td>
<td>(f) Decomposers</td>
</tr>
</tbody>
</table>
Second Question:
(A) Put the letter indicating the correct statement between brackets in front of each scientific term.

Terminology:
- Photoperiodism ( )
- Fault ( )
- Joints ( )
- Residual Soil ( )
- Stalagmites ( )
- Environmental Resource ( )

Statements:
a- Fractures present in all types of rocks without displacement.
b- A soil formed in the place of the same original rock and characterized by the gradual texture of grain size.
c- Everything found in the natural environment of components which man has nothing to do with its presence and depends on it in his various life aspects.
d- Calcareous deposits grow from the floor of a cave.
e- The relation between the light period and the darkness period that the plant is subjected to sequentially every 24 hours.

(B) Give reasons by putting the letter of the correct reason between brackets:

1- Oil is not considered a mineral for a specialized geologist because it is ( )
   a) solid matter
   b) inorganic
   c) liquid matter and has no definite chemical composition
   d) having distinct crystalline form

2- Basalt rock is characterized by micro crystalline texture due to ( )
   a) subject to pressure and temperature
   b) cohesion and lithification of grains by cementing material
   c) slow cooling of lava above earth surface
   d) fast cooling of lava above earth surface

3- The colour property is of a little importance in mineral identification because the colours of most minerals are ( )
   a) changing due to impurities
   b) not affected by impurities
   c) not affected by the differences in chemical composition
   d) having strong luster

4- Phytoplankton spread in the surface layers of the marine ecosystem due to ( )
   a) availability of light necessary for photosynthesis
   b) increasing of water pressure
   c) shortage of light
   d) increasing of salt concentration
The foliation property is shown in mica schist as a result of:

a) compaction of clay and mud components
b) exposure of granite to pressure and temperature
c) arrangement of mica crystals in one direction, perpendicular to the direction of pressing force
d) exposure of limestone to high temperature

Third Question:
(A) Put (√) in front of the correct statement and (×) in front of the incorrect statement:
1- Regulated grazing causes degradation of trees and vagrancy of animals. ( )
2- The nonconformity surface is between layers, the older layers are tilted and the younger layers are horizontal. ( )
3- Large fishes contain highest level of energy in the marine ecosystem. ( )
4- Gold is one of the minerals that have nonmetallic luster. ( )
5- Some desert animals such as jerboas do not touch water all their life, since they feed on seeds and succulent plants to get water. ( )

(B) Put (√) in front of rock type to which the following rocks belong:

<table>
<thead>
<tr>
<th>Rock Name</th>
<th>Igneous Rocks</th>
<th>Sedimentary Rocks</th>
<th>Metamorphic Rocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Gypsum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Microdiorite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Quartzite</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4 Gabbro</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5 Conglomerates</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fourth Question:
(A) Mention one example for each of the following.
(put the letter indicating each statement in front of the suitable example)

The example:
1- The terraces ( ) 2- Marble ( ) 3- The hexagonal ( )
4- The cube ( ) 5- Plastics ( ) 6- Roaming crustaceans. ( )

Statements:

a- A metamorphic rock formed as a result of cementing of calcite crystals due to the contact between limestone with magma.
b- Organisms stay all day below a depth of about 22 meters underwater to escape ultraviolet rays.
c- A crystal has three crystal axes equal in length whose angles are right angles to each other.
d- Materials are used in manufacturing pipes instead of non-renewable metals.
e- A shape formed as a result of differential erosion by wind.
(B) What would happen in each of the following?
(by putting the letter of the correct choice between brackets.)

1- Spreading of human population on agricultural land to build housing and establish of projects leads to
   a) Decreasing agricultural resources.
   b) Increasing agricultural resources.
   c) Increasing the fertility of soil.
   d) Soil acquires desirable physical properties.

2- The meeting of river water with seawater having strong sea currents
   a) delta is formed
   b) river terraces are formed
   c) spits are formed
   d) delta is not formed

3- A fracture is resulting from tension, and the hanging wall moves along the fault plane downward. The ……… fault is formed.
   a) horst
   b) graben
   c) reverse
   d) normal

4- Decreasing evaporation of water due to decreasing temperature and increasing rain and falling water from river estuaries lead to
   a) increasing concentration of soluble salts
   b) decreasing concentration of soluble salts
   c) various types of dissolved salts
   d) decreasing concentration of sodium chloride

5- Passing the river water over a solid layer that overlaid the top of a soft layer, …… is formed.
   a) wind terraces
   b) meanders
   c) river terraces
   d) waterfalls

Fifth Question:
(A) Complete each of the following phrases.
( put the letter that indicate each statement in front of the suitable word )

Words: 1 - Quartz  3 - Oil shale  5 - Mantle
         7 - Eroding the agricultural soil  9 - The sunset period

Statements:
a) Removal of the upper layer of soil to use it in red brick manufacturing.
b) The period in which the activity of the day animals is reduced gradually and then they return to their shelters.
c) One of the Earth's regions that has a thickness about 2900 km and contains partially molten (elastic) rocks.
d) Muddy rock rich in hydrocarbons, are mostly of plant origin and has a waxy solid state.
e) A mineral has nonmetallic luster and concoidal fracture.
B) The diagram below shows Delta Cone in the river. Put the numbers given in the diagram in front of the suitable label.

a) Sea Level. (1)
b) Clay. (2)
c) Delta Plain. (3)
d) Gravel and sand. (4)
e) Layers of Delta. (5)

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