National 5 Biology

Multicellular Organisms

Homework

a) Cells Tissues and Organs
HOMEWORK 1  (16 marks)

1. (a) Multicellular organisms are composed of different cell types which are ‘specialised’. Describe what this means and what process cells undergo to become specialised.

   Description ____________________________________________________________ (1)
   ____________________________________________________________

   Name of process ________________________________ (1)

(b) Complete the table to describe the function of some specialised cells in plants and animals.

<table>
<thead>
<tr>
<th>specialised cell</th>
<th>Found in plants or animals?</th>
<th>Function of specialised cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell</td>
<td></td>
<td>Controls gas exchange by opening or closing stomata</td>
</tr>
<tr>
<td>Root hair cell</td>
<td></td>
<td>Transmit nerve impulses</td>
</tr>
</tbody>
</table>

(c) Complete the sentences below.

   Cells that do the same job are grouped together to form ____________
   Examples include ______________ in animals and ____________ in plants  (3)

(d) Which of the following shows the correct organisation in multicellular organisms? Circle your answer.

A) Tissues → Cells → Organs
B) Cells → Tissues → Organs
C) Organs → Cells → Tissues
D) Cells → Organs → Tissues  (1)
2. The diagrams below contain examples of specialised cells. Match each number to a letter to give the correct description of their function.

1. [Diagram of cells with text: Contracts to cause movement within animals]
2. [Diagram of cells with text: Absorbs water and minerals from soil for the plant]
3. [Diagram of cells with text: Carries oxygen around the body of mammals]

3. Explain why the heart is described as an organ and not as a tissue.

__________________________________________________________________
__________________________________________________________________ (1)

4. Organise the list of terms below into the table placing them under the correct headings.

<table>
<thead>
<tr>
<th>Sperm</th>
<th>Eye</th>
<th>Muscular</th>
<th>Red Blood</th>
<th>Root</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nervous</td>
<td>Egg</td>
<td>Lung</td>
<td>Liver</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell</th>
<th>Tissue</th>
<th>Organ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(3)

5. Give an example of a specialised cell and describe how its specialised feature(s) help it carry out its function.

Example: ______________________________________

Feature(s): ______________________________________

_________________________________________________

_________________________________________________

_________________________________________________ (1)