

Questions

Q1.

Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .

Birds are classified in the domain Eukarya.

(i) Why are the cells from birds described as eukaryotic?

(1)

- A they have membrane-bound organelles
- B they do not have nuclei
- C they have a rigid cell wall
- D they have a cell membrane

(ii) Give one reason why the three domain classification system was proposed.

(1)

.....

.....

.....

(Total for question = 2 marks)

Q2.

Organisms can be classified by the five kingdom or three domain method.

(i) What is the name of the domain that plants belong to?

(1)

- A Eukary
- B a
- C Archae
- D a

Monera

(ii) Plant cells contain chloroplasts.

Protista

What happens in a chloroplast?

(1)

<input type="checkbox"/> A	oxygen produced	sunlight absorbed by chlorophyll
<input type="checkbox"/> B	carbon dioxide produced	sunlight absorbed by mitochondria
<input type="checkbox"/> C	oxygen produced	sunlight absorbed by mitochondria
<input type="checkbox"/> D	carbon dioxide produced	sunlight absorbed by chlorophyll

(iii) Give a reason why the three domain method of classification has been suggested.

(1)

.....  
.....

(Total for question = 3 marks)

Mark Scheme

Q1.

Question number	Answer	Mark	
(i)	<p>A they have membrane-bound organelles</p> <p><b>The only correct answer is A</b></p> <p><i>B is not correct because they have a nucleus</i></p> <p><i>C is not correct because they do not have a cell wall</i></p> <p><i>D is not correct because this is not a specific feature of eukaryotic cells</i></p>	(1) AO1 1	
Question number	Answer	Additional guidance	Mark
(ii)	genetic analysis / based on {DNA/genetics} / DNA of Archaea more similar to eukaryotes (1)	accept more knowledge because of better microscopes	(1) AO1 1

Q2.

Question number	Answer	Mark
(i)	<p>A Eukarya</p> <p><b>i. The only correct answer is A</b></p> <p><i>B is not correct because plants are not single celled prokaryotic organisms</i></p> <p><i>C is not correct because plants are not single celled prokaryotic organisms and Monera is a kingdom</i></p> <p><i>D is not correct because Protista is a kingdom and not a domain</i></p>	(1) comp AO1 (1) 4.7, 1.1

Question number	Answer	Mark
(ii)	<p>A oxygen produced sunlight absorbed by chlorophyll</p> <p><b>ii. The only correct answer is A</b></p> <p><i>B is not correct because photosynthesis doesn't produce carbon dioxide and sunlight is not absorbed by mitochondria</i></p> <p><i>C is not correct because sunlight is absorbed by chlorophyll not mitochondria</i></p> <p><i>D is not correct because photosynthesis doesn't produce carbon dioxide it produces oxygen</i></p>	<p><b>(1)</b></p> <p>AO1 (1)</p>

Question number	Answer	Mark
(iii)	<p>Any one from:</p> <ul style="list-style-type: none"> <li>• (improved) genetic analysis (1)</li> <li>• DNA/RNA {screening/sequencing} (1)</li> <li>• domain theory is based on genetics (1)</li> <li>• differences between coding and non-coding DNA (1)</li> </ul>	<p><b>(1)</b></p> <p>AO1 (1)</p>