

# Characteristics of Living Organisms

## Mark Scheme 1

<b>Level</b>	IGCSE(9-1)
<b>Subject</b>	Biology
<b>Exam Board</b>	Edexcel IGCSE
<b>Module</b>	Double Award (Paper 1B)
<b>Topic</b>	The Nature and Variety of Living Organisms
<b>Sub-Topic</b>	Characteristics of Living Organisms
<b>Booklet</b>	Mark Scheme 1

**Time Allowed:** 36 minutes

**Score:** /30

**Percentage:** /100

**Grade Boundaries:**

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

Question number	Answer	Notes	Marks																				
1	<table border="1"> <thead> <tr> <th>Structure</th> <th colspan="3">Organism</th> </tr> <tr> <td></td> <th>bacteria</th> <th>fungi</th> <th>viruses</th> </tr> </thead> <tbody> <tr> <td>cell wall</td> <td>✓</td> <td>✓</td> <td>x;</td> </tr> <tr> <td>nucleus</td> <td>x</td> <td>✓</td> <td>x;</td> </tr> <tr> <td>chloroplast</td> <td>(✓)</td> <td>x</td> <td>x;</td> </tr> </tbody> </table>	Structure	Organism				bacteria	fungi	viruses	cell wall	✓	✓	x;	nucleus	x	✓	x;	chloroplast	(✓)	x	x;	<p>If no X s and all ✓ in correct places allow Max 2</p>	3
Structure	Organism																						
	bacteria	fungi	viruses																				
cell wall	✓	✓	x;																				
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chloroplast	(✓)	x	x;																				

**Total 3 marks**

Question number	Answer	Notes	Marks																									
2 (a)	<table border="1"> <thead> <tr> <th>Group</th> <th colspan="4">Feature</th> </tr> <tr> <td></td> <th>Cell wall</th> <th>Plasmid</th> <th>Cytoplasm</th> <th>Nucleus</th> </tr> </thead> <tbody> <tr> <td>bacteria</td> <td>✓</td> <td>✓</td> <td>(✓)</td> <td>✗</td> </tr> <tr> <td>fungi</td> <td>✓;</td> <td>✗;</td> <td>✓</td> <td>(✓)</td> </tr> <tr> <td>protocists</td> <td>(✗)</td> <td>✗)</td> <td>✓;</td> <td>✓;</td> </tr> </tbody> </table>	Group	Feature					Cell wall	Plasmid	Cytoplasm	Nucleus	bacteria	✓	✓	(✓)	✗	fungi	✓;	✗;	✓	(✓)	protocists	(✗)	✗)	✓;	✓;	one mark for each correct column hybrid cross tick = 0 empty box = 0	4
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	Cell wall	Plasmid	Cytoplasm	Nucleus																								
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(b) ( )	virus / eq;	allow named virus allow prion allow nematodes allow helminths	1																									
(ii)	malaria / dysentery / sleeping sickness / giardiasis / toxoplasmosis / eq;		1																									

Total 6 marks

Question number	Answer	Notes	Marks
3 (a)	E; C;		2
(b)	1. can be used in the production of beer; 2. cell wall is made of chitin;	3 ticks max 1 4 ticks or more = 0	2

Question number	Answer	Notes	Marks
4		<p>5 = 4</p> <p>4 = 3</p> <p>3 or 2 = 2</p> <p>1 = 1</p>	4

Total 4 marks

Question number	Answer				Notes	Marks																
5 (a)	<table border="1"> <thead> <tr> <th>Group</th> <th>Can carry out photosynthesis</th> <th>Have a cell wall</th> <th>Can be pathogenic</th> </tr> </thead> <tbody> <tr> <td>bacteria</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>fungi</td> <td></td> <td>✓</td> <td>✓</td> </tr> <tr> <td>viruses</td> <td></td> <td>X</td> <td>✓</td> </tr> </tbody> </table>				Group	Can carry out photosynthesis	Have a cell wall	Can be pathogenic	bacteria	✓	✓	✓	fungi		✓	✓	viruses		X	✓	hybrid cross tick = 0  blank = 0  8 = 4 7/6 = 3 5/4 = 2 3/2 = 1 1/0 = 0	4
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5 (c)	receptor / nerve ending; sensory neurone / sensory nerve; impulse / message / signal; CNS / spinal cord / grey matter; synapse; relay neurone / relay nerve; motor neurone ; muscle / effector; contract;	sensory or motor not in correct order = 0  ignore brain  allow intermediate / association;	5
		<b>Total</b>	13