Ecology

Mark Scheme

# GCSE COMBINED SCIENCE: TRILOGY



# END OF TOPIC TEST

Q1a	A Protists	1
	B Animals	1
	C Plants	1
	D Fungi	1
	E Bacteria	1
Q1b	A group of organisms that can interbreed to produce fertile offspring.	1
Q1c	As they are non-living	1
	Lack of cellular organisation	1

## Q2a One mark for each correctly drawn line. Only one line from each term.



Q2b Any suitable answer for one mark each, maximum of two marks:

	- Food - Mates - Territory	1 1 1
Q2c	Any suitable answer for one mark each, maximum of two marks:	-

-	Light	1
-	Water	1
-	Space	1
-	Nutrients	1

# Q2d One mark for each correctly placed factor.

Abiotic Factors	Biotic Factors
Light intensity	Food availability
pH of soil	Introduction of a new
Water availability	picuator
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Q3a	Behavioural adapation Example given, e.g. hedgehog rolls up into ball.	1 1
	Function adaptation Example given, e.g. Snakes produce venom.	1 1
Q4	Any valid point for one mark each – examples below. Maximum of six marks. For full marks the method must be valid and the student must show a clear understanding of the process.	
	<ul> <li>Relevant equipment, e.g. tape measure, light meter</li> <li>Name quadrat</li> <li>Valid method – clear step by step guide to procedure, e.g. mark out transect, place quadrat at specified points along transect,</li> <li>Clear measurements – % abundance of grass recorded,</li> <li>Clear measurements – light meter reading at each position</li> <li>Record results in a table and look for how the abundance of plants were</li> </ul>	1 1 2 1 1
	affected by the light.	1
Q5a	i. Producer ii. (Primary) consumer iii. Tertiary consumer	1 1 1
Q5b	A – Photosynthesis B - Respiration	1 1
Q5c	Process A	
	Carbon dioxide + water -> glucose + oxygen	1
	Process B	
	Glucose + oxygen → Carbon dioxide + water	1
Q5d	Combustion (burning of fossil fuels).	1

Q5e Any of the following for one mark.

5

## Maximum of five marks.

Evaporation of water from rivers/sea/lakes	1
Requires the suns energy to change state	1
Condensation of water to form clouds	1
Precipitation – rain, snow, sleet fall	1
Transpiration by plants	1
Take water in through roots and released into atmosphere as a gas	1
Surface run off	1
Rivers drain into sea	1
	Evaporation of water from rivers/sea/lakes Requires the suns energy to change state Condensation of water to form clouds Precipitation – rain, snow, sleet fall Transpiration by plants Take water in through roots and released into atmosphere as a gas Surface run off Rivers drain into sea

Q5f One mark for each of the following. Maximum of six marks awarded. For full marks reference to effect upon biodiversity is required.

#### Examples below:

-	Water pollution, e.g. sewage	1
-	Chemical pollution, e.g. fertilisers	1
-	Oil spills	1
-	Air pollution	1
-	Acid rain – sulfur dioxide	1
-	Land pollution, e.g. land fills	1
-	Land use, e.g. homes, quarrying, mining	1
-	Deforestation, for homes, farming	1
-	Peat bogs – burning of peat releases carbon dioxide	1
-	Deforestation	1
-	Global warming, e.g. carbon dioxide from combustion	1
-	Results in reduced biodiversity	1
-	as habitats are destroyed	1
-	resources are used up	1
-	land/water resources contaminated	1