New Specification

Rewarding Learning

General Certificate of Secondary Education
2018

Biology

Unit 1

Foundation Tier

[GBL11]

FRIDAY 8 JUNE, MORNING

MARK SCHEME

General Marking Instructions

Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

				AVAILABLE MARKS
1	(a)	*Lines drawn to connect* Starch → iodine solution Protein → Biuret Fat → ethanol One correct = [1] Two/three correct = [2]	[2]	
	(b)	Any **two** from: Add Benedict's reagent; [1] boil/heat; [1] (from blue) → brick red	[2]	4
2	(a)	**A** – Cell wall; [1] **B** – Nucleus; [1] controls cell/contains chromosomes/genes/genetic information/DNA; [1]	[3]	
	(b)	Cytoplasm;	[1]	
	(c)	Bacterium wall has no cellulose/plant cell wall has cellulose;	[1]	5
3	(a)	**A** – combustion; [1] **B** – photosynthesis; [1] **C** – respiration; [1]	[3]	
	(b)	Any **three** from: Death; [1] egestion/faeces/excretion/urine; [1] decomposition; [1] absorption (by fungi); [1] (Any **three**)	[3]	6
4	(a)	**A** – Epidermis; **B** – spongy (mesophyll); [1] **C** – stoma; [1]	[3]	
	(b)	More cells/cells tightly packed/cells end on to upper surface; more chloroplasts; close to top of leaf; (Any **two**)	[2]	5

AVAILABLE MARKS

5 Indicative Content

1. Long [length];
2. Can transmit impulses over large distances;
3. Branched ends;
4. Can connect with many other neurones;
5. Insulating/myelin sheath;
6. Increases speed of impulse transmission;
7. Cell body;

Band	Response	Mark
A	Candidates **must use appropriate, specialist terms** throughout to describe and explain their conclusions **using <u>at least 5</u> of the points**. They use **good** spelling, punctuation and grammar and the form and style are of a **high standard**.	[5]–[6]
B	Candidates use **some appropriate, specialist terms** throughout to describe and explain their conclusions **using <u>at least 3</u> of the points**. They use **satisfactory** spelling, punctuation and grammar and the form and style are of a **satisfactory standard**.	[3]–[4]
C	Candidates make **little use of specialist terms** throughout to describe and explain their conclusions **using <u>at least 1</u> of the points**. The spelling, punctuation and grammar, form and style are of a **limited standard**.	[1]–[2]
D	Response not worthy of credit.	[0]

[6] 6

6 (a) B; [1]
Any **two** from:
highest protein/12.5 g;
proteins are made up of amino acids/amino acids are needed for structural molecules;
lowest fat; [3]

(b) Any **two** from:
large/insoluble;
into small/simple/soluble;
so they can fit through wall of blood vessel; [2]

(c) Any **two** from:
large surface area [/length/folds/villi];
good blood supply;
thin/permeable membranes; [2] 7

					AVAILABLE MARKS
7	(a)	(i)	**A** – Pupil; [1] **B** – Iris; [1]	[2]	
		(ii)	Description: Smaller pupil [A]; [1] wider iris [B]; [1]	[2]	
		(iii)	Explanation: Less light enters the eye/onto retina; [1] retina contains cells sensitive to different types of light/reduces damage to light sensitive cells; [1]	[2]	
	(b)	(i)	Conjunctiva;	[1]	
		(ii)	Optic nerve;	[1]	8
8	(a)	(i)	Phototropism;	[1]	
		(ii)	Auxin;	[1]	
		(iii)	Uneven distribution of hormone/described; [1] differential growth of **cells**/described; [1]	[2]	
	(b)		More light trapped; [1] for photosynthesis; [1]	[2]	6
9	(a)	(i)	**A** – Bladder; [1] **B** – Ureter; [1]	[2]	
		(ii)	**C** – Cortex;	[1]	
	(b)	(i)	Osmoregulation;	[1]	
		(ii)	500 + 2000 = 2500; [1] 400 + 1750 + 700 = 2850; [1] 2850 – 2500 = 350; [1]	[3]	
		(iii)	**More** water lost as sweat; [1] (evaporation) during breathing; [1] less lost in urine/urine higher concentration; [1]	[3]	10

				AVAILABLE MARKS
10	**(a)**	Glucose; carbon dioxide, water;	[2]	
	(b)	**(i)** 1/from graph;	[1]	
		(ii) 10 – 25 s; [1] 40 – 50 s; [1] lactic acid concentration increases [during this time]/more lactic acid produced; [1]	[3]	
		(iii) Lactic acid levels off; [1] muscles respiring aerobically/not respiring anaerobically; [1]	[2]	
		(iv) Lactic acid level drops; [1] lactic acid broken down in muscle/using oxygen; [1]	[2]	10
11	**(a)**	Foxes, hawks; [1] Frogs, thrushes; [1] Rabbits, slugs; [1]	[3]	
	(b)	Sun;	[1]	
	(c)	Fox;	[1]	
	(d)	Consumption/feeding/transfer of energy;	[1]	
	(e)	Make own food/photosynthesis; [1] Provide food for other animals in web; [1]	[2]	8
			Total	**75**