OCR A-LEVEL BIOLOGY A · H420

BIOLOGY



EXAM QUESTION PACK

5.1.5 PLANT AND ANIMAL RESPONSES

SCORE	PERCENTAGE
/72	%

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Answer **all** the questions.

1(a). **Fig. 20.1** is a flow diagram that shows the sequence of events in the body once a threat is perceived. The response is often described as the 'fight or flight' response as it prepares the body to respond physically to the threat in the short-term.

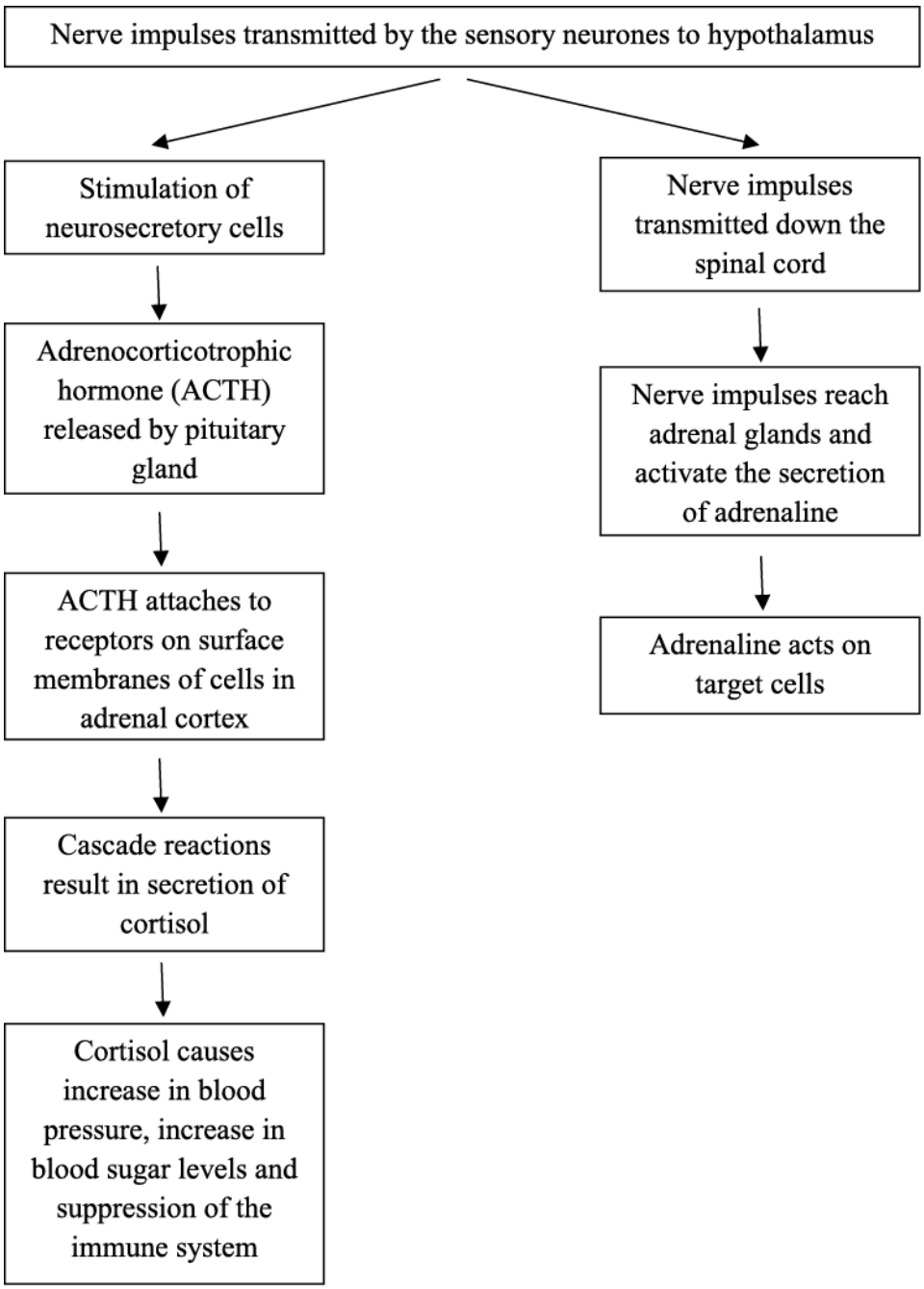


Fig. 20.1

(i) Identify **two** signalling molecules named in **Fig. 20.1**.

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1 ----------

2 ----------

[1]

(ii) Adrenaline acts on a variety of cell types with a variety of responses.

Complete the table by stating the effects of stimulating each target cell. The first one has been completed for you.

Target cell	Response	Role in the 'fight or flight' response
Smooth muscle in bronchioles	Muscle relaxes	Bronchioles dilate and allow more oxygen to reach blood
Sino-atrial node		
Liver cell		
Erector muscle in skin		

[6]

(iii) Describe the sequence of actions that occur once adenylyl cyclase is activated in the target liver cells.

---

[2]

(iv) The response in **Fig. 20.1** also occurs when a person is subjected to stress. However, the body does not need to respond physically to the stimulus and so, for example, the bronchioles do not dilate.

From the information given and your own knowledge, suggest the long term adverse effects of continued exposure to stress on body function.

---

[2]

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(b). Athletic sprinters require large amounts of energy in short periods of time. Many elite sprinters can run 100 metre races in under 10 seconds.

Under normal conditions, exercise requires an increased rate of breathing. It has been observed that some of the best sprinters only take one breath at the start of the race and do not inhale again until the end of the race.

Suggest how these sprinters can expend so much energy without needing to carry out aerobic respiration.

---

[2]

2. Plants have evolved response mechanisms to a variety of abiotic and biotic stimuli.

Flowering plants respond to changes in the length of day. The advantage of this response is that these plants begin to flower only when environmental conditions are favourable.

Karl Hamner studied the effect of exposure to light and darkness on flowering in cocklebur plants. He placed cocklebur plants in darkness for different periods of time. Some of his results are shown in Table 6.1.

Period of darkness (h)	Flash of light during the period of darkness?	Flower production
8.5	No	Yes
6.5	No	No
12.5	Red light after 6 hours	No
12.5	Red light after 6 hours, followed by a flash of far red light	Yes
6.5	Several flashes of far red light	Yes

Table 6.1

Suggest what conclusions can be drawn from the results in Table 6.1 about the effect of exposure to light and darkness on flowering in cockleburs.

[3]

3. * The orange tree, *Citrus sinensis,* is an important crop plant.

Scientists applied the following treatments to commercial orange trees:

- Gibberellins were applied at various stages of development.
- Auxins were applied during development and to mature orange trees.

The treated orange trees were compared to untreated orange trees. Scientists observed that the treated trees:

- had slightly shorter roots
- grew taller
- all began to grow within two days of each other
- had fewer and shorter side branches
- retained their fruit and leaves for longer.

Suggest explanations for each of these observations.

[6]

4(a). Flowering plants often produce fruit.

State **one** hormone that promotes the ripening of fruit.

[1]

(b). State **two responses** that some plants use to defend themselves from herbivory.

[2]

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5. Herbicides work in a number of different ways.

(i) Some herbicides, known as phenoxy herbicides, mimic the action of the auxin, indoleacetic acid (IAA).

What is the normal action of IAA in plant cells?

[1]

(ii) The herbicide atrazine works by disabling plastoquinone, one of the proton pumps in photosystem II.

Explain how atrazine would kill a susceptible plant.

[5]

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6. One way that humans try to maximise food production is to manipulate the transfer of energy through ecosystems.

A number of methods can be used to increase energy transfer through agricultural ecosystems and other food production systems.

These methods include:

A	artificial selection
B	recombinant DNA technology
C	growing microorganisms in a fermenter
D	use of immobilised enzymes
E	control of plant physiology with synthetic plant hormones
F	manipulation of the nitrogen cycle.

Using the letters **A** – **F**, select the **most suitable** method that could be used to achieve each of the aims shown in the table below.

You may select each letter more than once.

Aim	**Letter**
improving soil that is low in nutrients for the growing of wheat	
preventing the spoilage of fruits after picking	
reducing the impact of a fungal disease on yields from cucumber plants	
producing strawberry plants that grow quicker and fruit earlier	
making sugar syrup from waste starch	
producing large amounts of a fungus for food	

[6]

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7. A student setting up an experiment to investigate the effect of light on cress plant seedlings accidentally shone the bright light onto one side of the face of another student. He noticed that the student immediately responded by raising her hand to shield her eye from the light.

The response of the cress seedlings to light shining from one direction was slower, but after 24 hours the cress seedlings had grown towards the light.

Describe the mechanisms that produced the responses to light in the cress seedlings **and** in the human.

cress seedlings

---

human

---**[7]**

8(a). Animals and plants respond to changes in their environment.

Plants respond to changes in their environment using chemicals known as plant hormones or plant growth regulators.

A student carried out a two-part experiment to identify the contents of two unlabelled bottles, **J** and **K**. One bottle contained auxin and the other contained gibberellin.

In Part 1 of the experiment, 30 seedlings had their shoot tips removed. The 30 seedlings were then divided into three groups of 10 and treated as shown in Table 3.1 and Fig. 3.1.

Group	Treatment
1	no treatment applied
2	solution of **J** applied to cut stem at apex of seedling
3	solution of **K** applied to cut stem at apex of seedling

Table 3.1

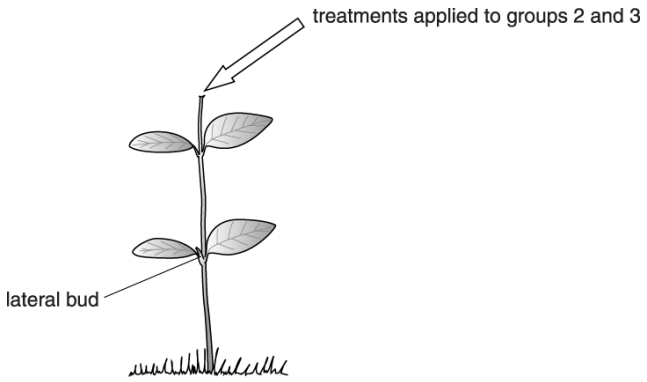


Fig. 3.1

All the seedlings were then exposed to light from **all** directions and left for seven days.

In Part 2 of the experiment, 30 coleoptiles had their tips removed. They were then divided into three groups of 10 coleoptiles and treated as shown in Table 3.2 and Fig. 3.2.

Group	Treatment
4	no treatment applied
5	solution of **J** applied to cut tip of coleoptile
6	solution of **K** applied to cut tip of coleoptile

Table 3.2

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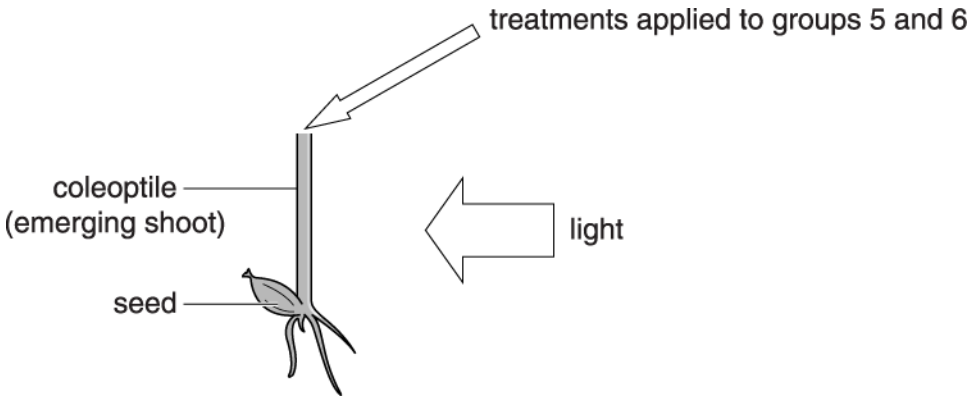


Fig. 3.2

The coleoptiles in groups **4**, **5** and **6** were then exposed to light from **one direction**, as shown in Fig. 3.2, and left to grow for two days.

(i) Identify **three** variables that must be controlled in this experiment to produce valid results.

1

2

3

---

[3]

(ii) Groups **1** and **4** were controls in this experiment.

Explain why these controls were necessary.

---**[1]**

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The observations at the end of each part of the experiment are shown in Table 3.3.

Group	Treatment	Observations
1	none	increase in stem length of 10 mm and growth of lateral buds
2	**J** on cut stem apex	no growth of lateral buds
3	**K** on cut stem apex	increase in stem length of 40 mm and growth of lateral buds
4	none	vertical growth of the coleoptiles
5	**J** on cut coleoptile tip	growth of the coleoptiles towards the light source
6	**K** on cut coleoptile tip	vertical growth of the coleoptiles

Table 3.3

(iii) Using the information from Table 3.3, identify the contents of bottles **J** and **K and** give reasons for your answer.

J ----------

K ----------

reasons ----------

---**[3]**

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(b). As mammalian muscle uses energy to contract, it needs an energy supply.

Complete the following passage by choosing the best term to fill each gap.

Most ATP for muscle contraction is generated by aerobic respiration in organelles

called _____. Most of this ATP is produced by the stage of aerobic

respiration called _____.

If the oxygen supply is insufficient, ATP can also be obtained from anaerobic respiration, in which pyruvate is

converted to the toxic product _____ .

A third source of ATP in muscle involves the transfer of a phosphate group to ADP from a

substance called _____.

During the contraction of skeletal muscle, energy from ATP is used to break

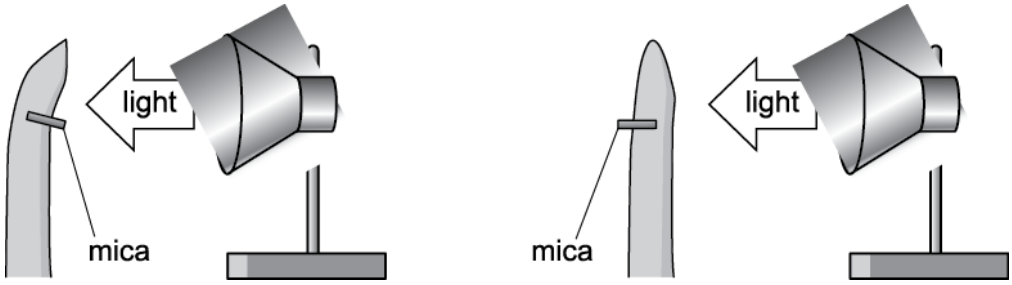
the _____ that hold the actin and _____ together.

[6]

9. In 1913, scientist Peter Boysen-Jensen investigated phototropism in plants.

He inserted mica plates into growing shoots illuminated from one side only. Mica allows electrical impulses to pass through, but does not allow soluble molecules to pass through.

The diagram below summarises Boysen-Jensen's results.



Which of the following statements correctly explains these results?

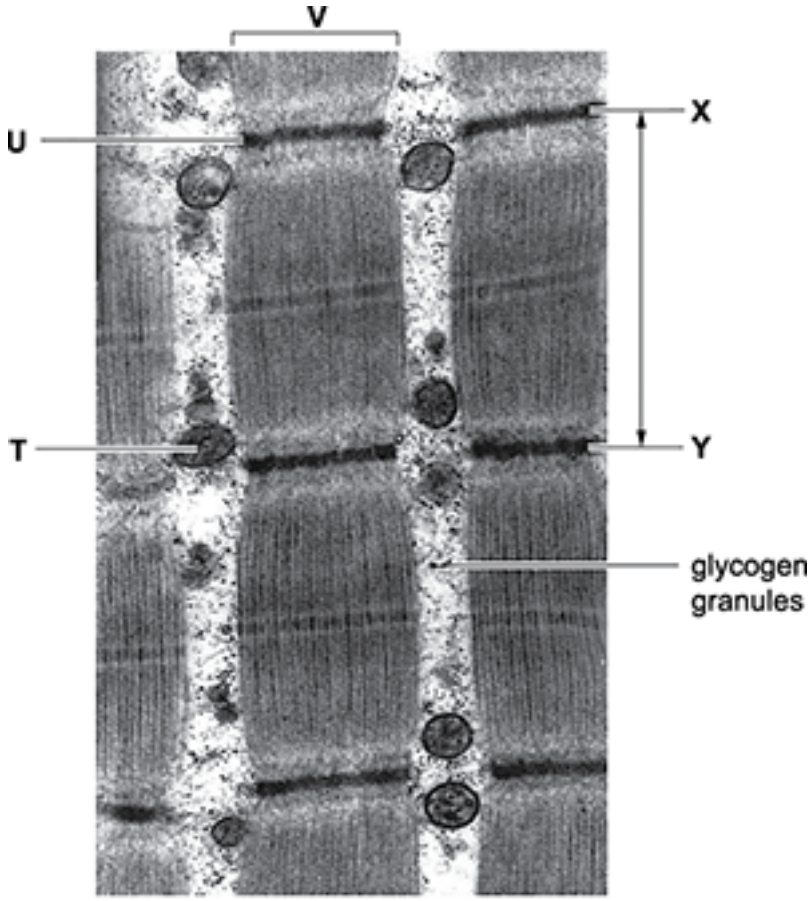
1 The factor causing phototropism moves away from the tip.
2 The factor causing phototropism is not an electrical impulse.
3 The factor causing phototropism moves away from light.

A 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]

10. The image below is a transmission electron micrograph of a section of skeletal muscle.



Which row, **A** to **D**, shows the correct labels?

	Organelle T	**Region U**	**Region V**	**Region between X and Y**
A	Golgi body	I-line	actin	Z-band
B	mitochondrion	Z-line	myofibril	sarcomere
C	sarcoplasmic reticulum	A-band	collagen	I-band
D	mitochondrion	I-band	myosin	sarcoplasmic reticulum

Your answer

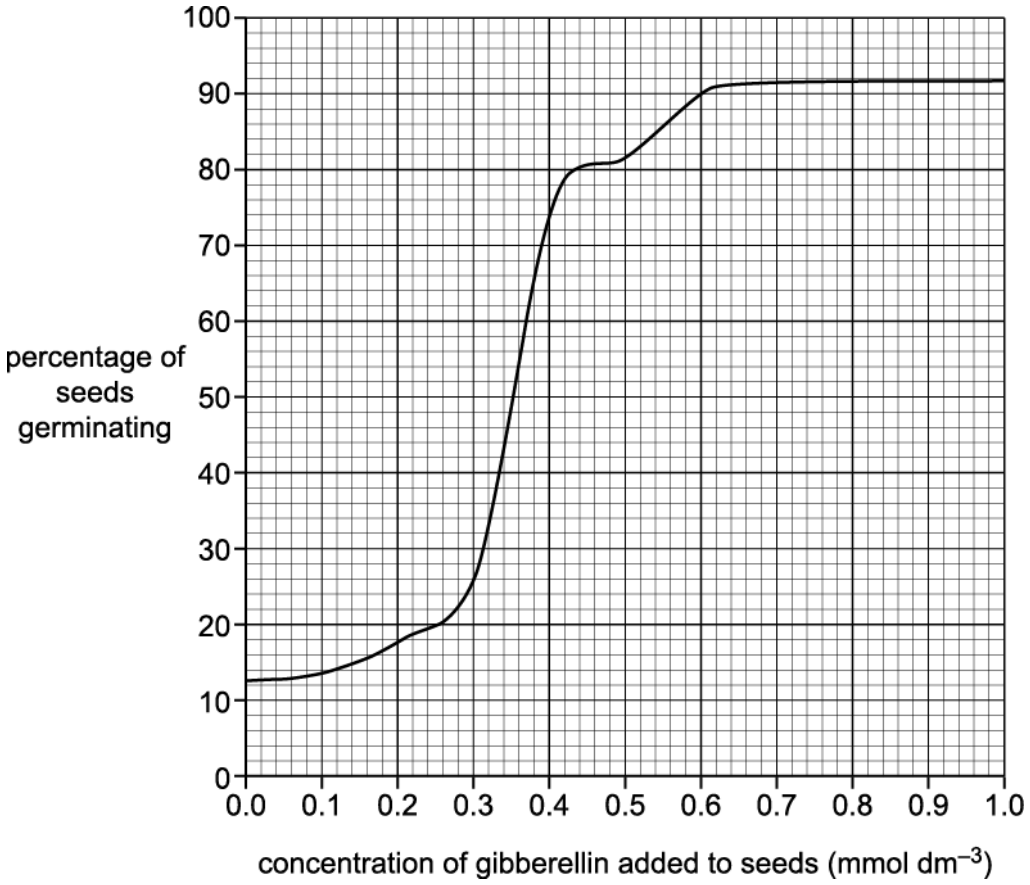
[1]

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11. The following graph shows the results of a study into the effects of gibberellin concentration on the germination of seeds.



Which of the following statements correctly describes the data in the graph?

1 13% of cells germinate without the addition of extra gibberellin.

2 Gibberellin concentrations of greater than 0.5 mmol dm^{-3} do not result in seed germination greater than 84%.

3 Concentration of gibberellin has the biggest effect on seed germination between 0.21 mmol dm^{-3} and 0.35 mmol dm^{-3}.

A 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

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[1]

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12. Bonsai trees are miniature versions of full-sized trees grown in small pots. Bonsai trees can be grown from a range of different woody plants. They are carefully grown and cut to give the desired shape.

The following observations have been made about the growth of bonsai trees:

- Removing the top growing tip encourages a bushier shape.
- Allowing the tip to grow encourages a more conical shape.
- Allowing the tip to grow prevents the lower stems from growing evenly.

A student drew the following conclusion for these observations:

> These observations suggest that a plant hormone plays an important part in the growth of bonsai trees.

Using your knowledge of plant growth, evaluate the student's conclusion.

---

[3]

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13(a). Squid are an order of aquatic animals. Many species of squid show a reflex response to changes in their body position.

- A sensory receptor called a statocyst detects changes in the body position of the squid in their aquatic environment.
- The reflex response corrects the squid's body position.

(i) Describe the components and events involved in a reflex arc.

---

[3]

(ii) Suggest one benefit to the squid of the reflex response described above.

---

[1]

(iii) A statocyst sensory receptor is shown in Fig. 2.1.

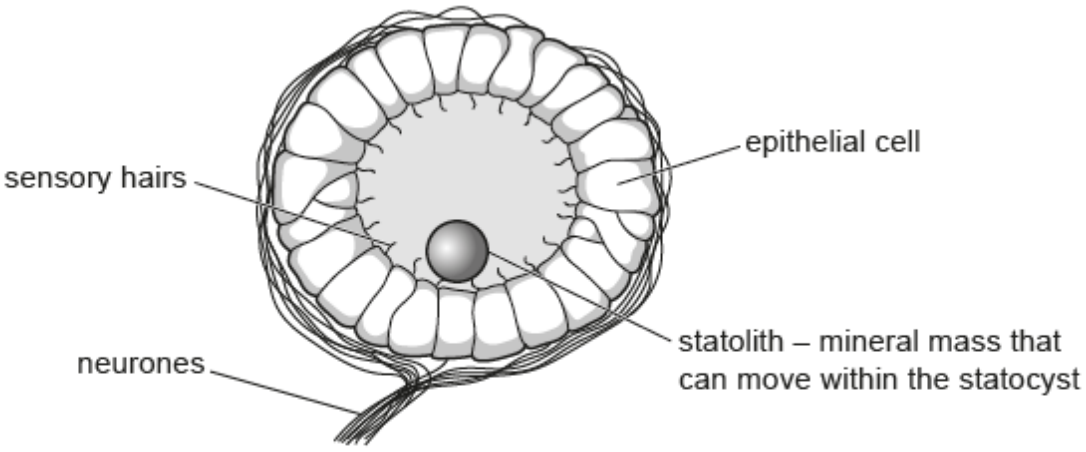


Fig. 2.1

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What can you conclude from Fig. 2.1 about the mechanism by which a statocyst acts as a transducer?

[3]

(b). Lobsters and sea cucumbers also have statocysts. From this information, the student concluded:

'I think this means squids, lobsters and sea cucumbers evolved from a recent common ancestor and are probably classified in the same phylum.'

Evaluate the extent to which the information about lobsters and sea cucumbers supports the student's conclusion.

[2]

END OF QUESTION PAPER

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<table>
<tr><th colspan="3">Question</th><th>Answer/Indicative content</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>a</td><td>i</td><td>two of
ACTH
cortisol
adrenaline</td><td>1</td><td>Two answers required for 1 mark.</td></tr>
<tr><td></td><td></td><td>ii</td><td><table>
<tr><td>Sino-atrial node</td><td>increases rate of firing impulses (1)</td><td>increased heart rate circulates blood more quickly (1)</td></tr>
<tr><td>Liver cell</td><td>increases glycogenolysis (1)</td><td>makes more glucose available for respiration (1)</td></tr>
<tr><td>Erector muscle in skin</td><td>contraction of muscle (1)</td><td>(causes hairs to be raised and so) makes animal look larger / more aggressive (1)</td></tr>
</table></td><td>6</td><td></td></tr>
<tr><td></td><td></td><td>iii</td><td>catalyses synthesis of cyclic AMP from ATP (1)
cyclic AMP activates enzymes responsible for conversion of glycogen to glucose (1)</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>iv</td><td>two from
prolonged high blood pressure can lead to cardiovascular problems (1)
prolonged high blood sugar can lead to, problems with blood sugar regulation / diabetes (1)
suppression of the immune system can lead to susceptibility to, disease / infection (1)</td><td>2</td><td></td></tr>
<tr><td></td><td>b</td><td></td><td>two from
cells are able to tolerate, high levels of lactate / acidity / low pH (1)
have high phosphocreatine stores (1)
use of stored ATP (1)</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>13</td><td></td></tr>
</table>

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Question			Answer/Indicative content	Marks	Guidance
2			*idea that* minimum period of darkness required for flowering is between 6.5 and 8.5 hours (1) *idea that* cockleburs flower when day length / period of exposure to light decreases (1) *idea that* red light prevents flowering (1) *idea that* far red light reverses / resets the effect of red light (1) *idea that* far red light reduces the period of darkness required for flowering (1)	3	**ALLOW** red light has no effect on flowering
			Total	**3**	

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Question			Answer/Indicative content	Marks	Guidance
3			***Please refer to the marking instruction point 10 for guidance on how to mark this question.*** ***In summary:*** *Read through the whole answer. (Be prepared to recognise and credit unexpected approaches where they show relevance.)* *Using a 'best-fit' approach based on the science content of the answer, first decide which of the level descriptors,* ***Level 1****,* ***Level 2*** *or* ***Level 3****, best describes the overall quality of the answer.* *Then, award the higher or lower mark within the level, according to the* ***Communication Statement*** *(shown in italics):* • *award the higher mark where the Communication Statement has been met.* • *award the lower mark where aspects of the Communication Statement have been missed.* • ***The science content determines the level.*** • ***The Communication Statement determines the mark within a level.***		

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Question			Answer/Indicative content	Marks	Guidance
			Level 3 (5–6 marks) Includes detailed explanations for most of the observations, with clear links to the correct hormone treatment and including relevant biochemical details where appropriate. *There is a well-developed line of reasoning, which is clear and logically-structured and uses scientific terminology at an appropriate level. All the information presented is relevant and forms a continuous narrative.* **Level 2 (3–4 marks)** Includes explanations for some of the observations, with some links to the correct hormone treatment and / or including relevant biochemical details. *There is a line of reasoning presented with some structure and use of appropriate scientific language. The information presented is mostly relevant.* **Level 1 (1–2 marks)** A limited number of observations included in the response, without clear links to the correct hormone treatment and / or including only limited biochemical detail. *There is a logical structure to the answer. The explanation and use of scientific language, though basic, is clear.* **0 marks** No response or no response worthy of credit.	6	**Indicative scientific points may include:** *shorter roots* high auxin concentrations / auxin in addition to the natural production inhibits root growth *taller* gibberellins promote stem elongation by stimulating cell elongation and division *growth timing* gibberellins promote seed germination by activating genes for amylase and protease enzymes, which break down food stores. *side branches* auxin maintains apical dominance and inhibits the growth of lateral shoots / branches. *delayed fruit and leaf fall* (a small addition of) auxin slows down fruit drop and leaf fall. Auxin inhibits abscission by preventing ethene production from increasing.
			Total	**6**	
4	a		ethene (1)	1	
	b		(named) chemicals (1) folding (1) stings (1)	2	**ALLOW** 2 named chemicals
			Total	**3**	

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<table>
<tr><th colspan="3">Question</th><th>Answer/Indicative content</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td></td><td>i</td><td>(stimulates) cell, elongation / division</td><td>1</td><td>IGNORE ref to action outside the cell, or to unqualified "growth" etc.</td></tr>
<tr><td></td><td></td><td>ii</td><td>three from
1 reduced / no, proton pumping / proton motive force / chemiosmosis (1)
2 photophosphorylation stops (1)
3 less / no, ATP produced (1)
4 less / no, reduced NADP produced (1)
5 no, Calvin cycle / carbon fixation / light independent stage (1)
plus
6 no, TP / (hexose) sugars, made (1)
7 no respiratory substrate / respiration ceases (1)</td><td>5</td><td>3 ALLOW cessation of vital process that needs ATP IF ATP mentioned but IGNORE respiration (as credited in mp 7).</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>6</td><td></td></tr>
<tr><td>6</td><td></td><td></td><td><table><tr><th>Goal</th><th>Letter</th></tr><tr><td>improving soil that is low in nutrients for the growing of wheat</td><td>F ;</td></tr><tr><td>preventing the spoilage of fruits after picking</td><td>E ;</td></tr><tr><td>reducing the impact of a fungal disease on yields from cucumber plants</td><td>A / B ;</td></tr><tr><td>producing strawberry plants that grow quicker and fruit earlier</td><td>A / B ;</td></tr><tr><td>making sugar syrup from waste starch</td><td>D ;</td></tr><tr><td>producing large amounts of a fungus for food</td><td>C ;</td></tr></table></td><td>6</td><td>Mark the first answer in each box. If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = 0 marks

ACCEPT A / B

ACCEPT C

Examiner's Comments

A Generally well answered question, with the majority of candidates gaining full marks. Producing strawberry plants which grow quicker was the most common point to get wrong, with the choice of E given. Some candidates put multiple letters in the boxes, which examiners allowed, if all letters given were present as options in the mark scheme.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>6</td><td></td></tr>
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Question			Answer/Indicative content	Marks	Guidance
7			*cress seedlings* **C1** apical cells / apex / tip(of shoot), produce, auxin / IAA; **C2** diffusion / active transport (down shoot / through parenchyma); **C3** greater auxin (concentration) on shaded side of stem; **C4** auxin causes cell <u>wall</u> loosening; **C5** auxin causes cell, elongation / expansion; **C6** further detail of changes in cell **wall**; *Human* **H1** retina / rods / receptors, detect light / AW; **H2** action potentials / depolarisation / nervous impulse, along sensory neurone (membrane); **H3** intermediate neurone (in brain) / (somatic) motor neurone / neuromuscular junction; **H4** correct ref to detail of synaptic transmission; **H5** depolarisation / contraction, of muscle fibre(s); **H6** correct ref to detail of muscle contraction;	7 max	**C1 ACCEPT** secretes /releases **C2 CREDIT** PIN (polar auxin transport) **C3 ACCEPT** auxin, moves to / collects on, shaded side **C3 IGNORE** found on shaded side **C4 ACCEPT** cell <u>walls</u> become, stretchy / less rigid **C4 IGNORE** weakened cell <u>walls</u> **C6** e.g. H^+ ions pumped into cell wall / low pH to allow enzymes to work / bonds broken within cellulose in wall **H1 IGNORE** ref to cones **H2 / H3 DO NOT CREDIT signals / messages** **H2 IGNORE** ref to optic nerve **H3 CREDIT** ref to relay neurone **H5 ACCEPT** muscle cell **H6** e.g. actin and myosin slide over each other **Examiner's Comments** This question produced a wide range of marks, and was generally a well - answered question with most candidates having a good attempt at both parts. Candidates lost marks by failing to focus on the mechanisms required to produce the responses to light in both plants and humans.

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Question			Answer/Indicative content	Marks	Guidance
					Cress seedlings Many candidates scored well here and it was good to see many answers including details of cell elongation and the mechanism of cell wall loosening. Many candidates scored marking points 3, 4, 5 and 6. Interestingly, fewer candidates scored marking point 1, forgetting to say that auxin is produced in the tip or to mention the diffusion of the auxin, for marking point 2. *Human* Many candidates did not score as well on this part. Many lost marks by the imprecise use of terminology, such as the terms signal / message or impulse instead of action potential for marking point H2. Very few linked this question to the detail of muscle contraction. A minority of students mentioned contraction of muscle cells or muscle fibres with the majority just saying muscle, which did not get marking point H5. A significant number of candidates concentrated on the role of the autonomic nervous system and benefit of reflex actions in preventing injury, and were awarded no marks at all. Creditable answers generally scored H1 with fewer scoring H2 and / or H3.
			Total	**7**	

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Question			Answer/Indicative content	Marks	Guidance
8	a	i	*seedlings / coleoptiles* have same **S1** age; **S2** height / length; **S3** mass; **S4** genotype / genome; **S5** species; *procedure has same* **P1** same volume of solution applied; **P2** (named) feature of growth medium; **P3** watering regime; **P4** light, intensity / wavelength / duration; **P5** temperature;	3 max	**Mark the first answer on each prompt line.** If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = **0 marks** **S2 IGNORE** size / surface area / width **S3 IGNORE** size / weight **S4 ACCEPT** same genetic makeup **IGNORE** same genes **For all P points IGNORE light *direction*** (as this is an independent variable) **P1 IGNORE** ref to concentration of solution **ACCEPT** *idea of* consistency in application of **J** and **K** **P2** e.g. type / pH / fertiliser (applied) / minerals / ions **IGNORE** nutrients **P3** e.g. volume of water / time of watering **P4** e.g. distance from light source **Examiner's Comments** The majority of candidates could correctly identify at least 2 control variables, but the use of imprecise terms such as 'amount' frequently led to candidates losing marks. Teachers should advise candidates that this word should be avoided in the construction of exam answers as it is rarely considered creditworthy.

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Question			Answer/Indicative content	Marks	Guidance
		ii	*idea that* shows the response without treatment **or** *idea that* allows the, effect of the treatment / results / groups, to be, compared;	1	**IGNORE** improves validity / fair test (as an explanation is required) 'to show the effects of **J** and **K**' is not enough **CREDIT** 'observations' for treatments **Examiner's Comments** Most candidates had the right idea of comparing the results to the controls or using the controls to show the response without treatments. However, a significant number still mentioned fair test, or improved reliability.
		iii	***ONLY CREDIT mark points in context of results, and not in context of general roles of auxin and giberellin*** ***J*** is auxin because **A1** inhibition of development of (lateral) buds (in group 2); **A2** growth of, coleoptiles / group 5, towards light; ***K*** *is gibberellin because* **G1** greater increase in, height / stem length (in group 3); **G2** causes growth of (lateral) buds (in group 3);	3 max	**J must be identified correctly for A marks to be awarded** **K must be identified correctly for G marks to be awarded** **A1 CREDIT** (group 2) results show apical dominance **A2 CREDIT** (group 5) results show positive phototropism **IGNORE** plant (as all are plants) **G1 CREDIT** greater elongation **G2 CREDIT** (group 3) results do not show apical dominance **Examiner's Comments** Although the hormones were correctly identified by the majority, several candidates lost marks by not relating the functions of the hormones to the results given. Where candidates missed out on MPA2 it was often because they had said '*bent* towards the light' or missed saying *positive* when they had given phototropism. Others had not mentioned greater increase in stem length and some had also included group 6 as a result for gibberellins.

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Question			Answer/Indicative content	Marks	Guidance
	b			6	**Mark the first answer on each prompt line.** If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = **0 marks**
			mitochondria;		**ACCEPT** mitochondrion **DO NOT CREDIT** mitochondrial matrix
			oxidative phosphorylation;		**IGNORE** electron transport chain (as not a stage)
			lactate;		**ACCEPT** lactic acid
			creatine phosphate / phosphocreatine;		**DO NOT CREDIT** creatinine
			(cross-)bridge / (cross-)link; myosin (head);		**DO NOT CREDIT** bond **ACCEPT** phonetic spelling
					Examiner's Comments This question proved to be a good discriminator, with less able candidates scoring 2 or 3 marks and stronger candidates scoring 5 or 6 marks. Almost all candidates correctly got the mark for mitochondria, and most also got the mark for myosin. The most common mark missing from this question was for creatine phosphate.
			Total	**13**	
9			A ☒	1	
			Total	**1**	
10			B ☒	1	
			Total	**1**	
11			D ☒	1	
			Total	**1**	

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Question			Answer/Indicative content	Marks	Guidance
12			results suggest action of plant, hormone / growth factor ☐ (observations suggest) apical dominance ☐ (which is mediated by) IAA / auxin ☐ *idea that* all plants / not just bonsai, will show apical dominance / will be affected by IAA / auxin ☐	3 max	 i.e. student statement refers only to effect on bonsai
			Total	**3**	
13	a	i	action potential / nervous impulse, in sensory neurone ☐ synapse / described ☐ relay / intermediate, neurone ☐ (nervous impulse in) motor neurone, passes to / AW, effector / muscle ☐	3 max	
		ii	*idea of* maintains balance / efficiency of movement ☐	1	
		iii	kinetic / movement, energy converted ☐ to, electrical energy / action potential ☐ *idea of* movement of statolith moves sensory hairs ☐ membrane of sensory hairs depolarises ☐	3 max	
	b		*Support is weak because* *idea that* clasification based on phylogeny ☐ statocysts could, have evolved on more than one occasion / be an example of convergent evolution ☐	2	
			Total	**9**	

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