EDEXCEL GCSE ADDITIONAL SCIENCE (360SCIENCE)

SCIENCE



EXAM QUESTION PACK

UNIT B2 HIGHER TIER 5016H PAPERS

STEMUP

These questions belong to Pearson Edexcel, not to us.

The examination questions, mark schemes and examiner reports in this pack were written and published by Pearson Edexcel. They are past assessment materials, reproduced here so that students can revise from them.

What we do not own

STEMUP is not affiliated with Pearson Edexcel and does not own, and makes no claim to own, any of the question, mark scheme or examiner report material in this pack. Pearson Edexcel has not endorsed, approved or been involved in the production of it. Pearson Edexcel and the qualification titles used here belong to their respective owners and appear for identification only.

Where to find the originals

Pearson Edexcel publishes its past papers, mark schemes and examiner reports free of charge. Always check the current specification at qualifications.pearson.com before you revise, because content and wording can change between series.

If you hold the rights to any material in this pack and would like it amended or removed, contact admin@stemup.co.uk and we will act on it.

Centre No.						Paper Reference (complete below)								Surname	Initial(s)
Candidate No.										H	/	1	H	Signature	

Paper Reference(s)

5016H/1H 5028H/1H

Edexcel GCSE

Additional Science (5016H)

Biology (5028H)

B2 – Topics 1 to 4

Higher Tier

Tuesday 7 June 2011 – Afternoon

Time: 30 minutes

Materials required for examination
Nil

Items included with question papers
Nil

Examiner's use only

Team Leader's use only

Question Number	Leave Blank
1	
2	
3	
4	
5	
6	
Total	

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) and signature, and complete the paper reference.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
Do not use pencil. Use black ink.
Show all stages in any calculations and state the units. Calculators may be used.
Include diagrams in your answers where these are helpful.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 6 questions in this question paper. The total mark for this paper is 30.
There are 12 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

You are reminded of the importance of clear English and careful presentation in your answers.

This publication may be reproduced only in accordance with Edexcel Limited copyright policy.
©2011 Edexcel Limited.

Printer's Log. No.
P38611A
W850/R1536/57570 1/1/1/1/

P 3 8 6 1 1 A 0 1 1 2

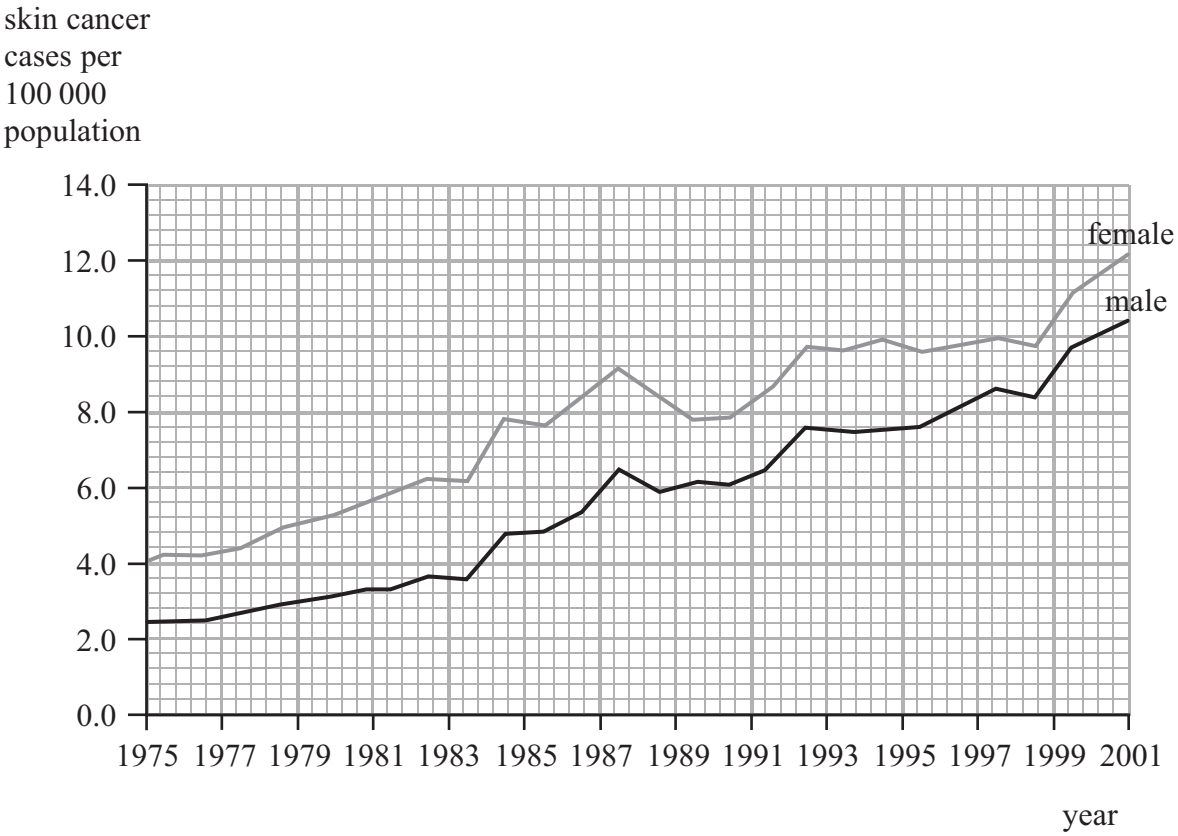
Turn over

edexcel
advancing learning, changing lives

STEMUP.CO.UK

Leave blank

1. The graph shows changes in the number of cases of skin cancer in males and females from 1975 to 2001.



(a) Compare the pattern of skin cancer cases in males and females from 1975 to 2001.

.....

.....

.....

.....

(2)

(b) The occurrence of skin cancer is a living indicator.
State another example of a living indicator that could be used to monitor air pollution.

.....

(1)

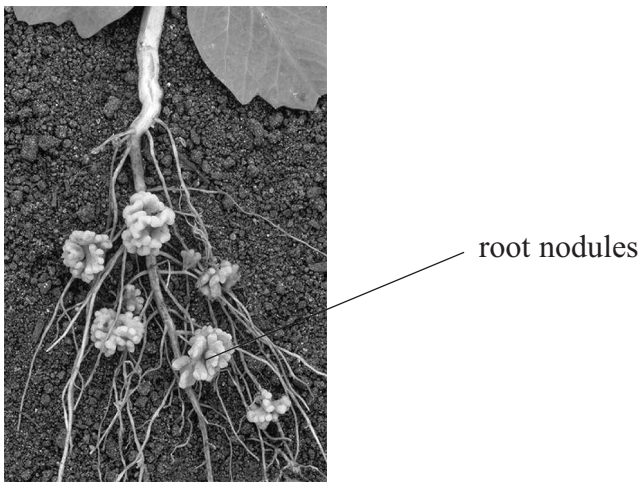
Q1

(Total 3 marks)

STEMUP.CO.UK

Leave blank

2. Pea plants have root nodules that contain bacteria.



Wally Eberhart, Visuals Unlimited/Science Photo Library

(a) Explain how the root nodules help the pea plant to grow.

.....

.....

.....

.....

.....

.....

(2)

(b) When the pea plant dies, compounds containing nitrogen are released into the soil. Explain how these compounds containing nitrogen are cycled through the environment.

.....

.....

.....

.....

.....

.....

(2)

STEMUP.CO.UK

Leave blank

(c) Farmers use compounds containing nitrogen as fertilisers.
Describe the effects of overuse of these fertilisers on rivers.

.....

.....

.....

.....

.....

.....

.....

.....

(3) **Q2**

(Total 7 marks)

STEMUP.CO.UK

Leave blank

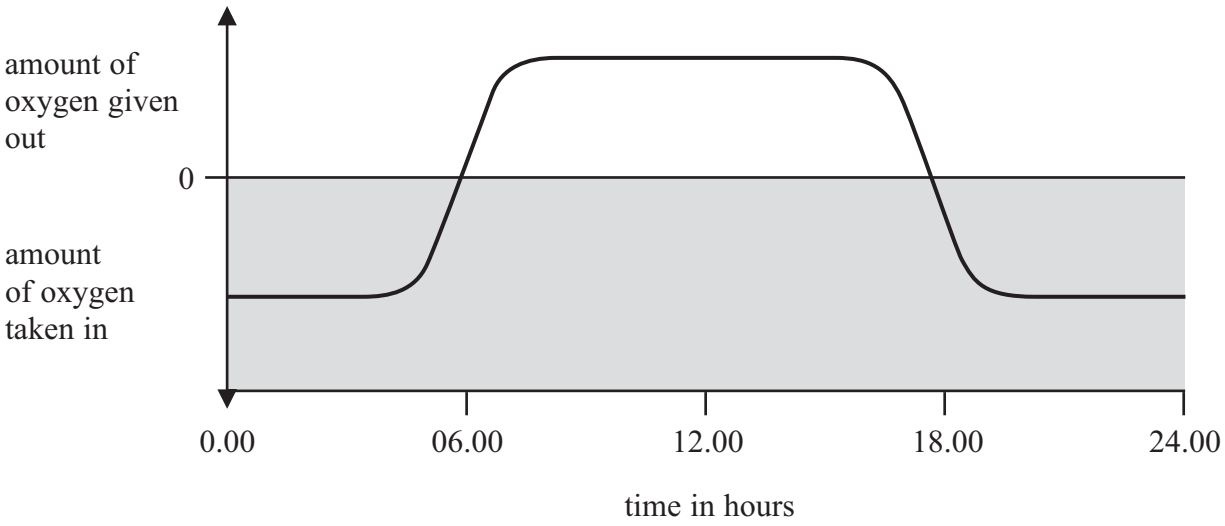
3. Plants carry out both photosynthesis and respiration in the daytime.

(a) Write the word equation for photosynthesis.

.....

(2)

The line on the graph shows the changes in the amount of oxygen given out and taken in by a plant in one day.



(b) For how many hours does the amount of oxygen given out exceed the amount of oxygen taken in?

.....

(1)

(c) State one limiting factor affecting oxygen production at 06.00 hours.

.....

(1)

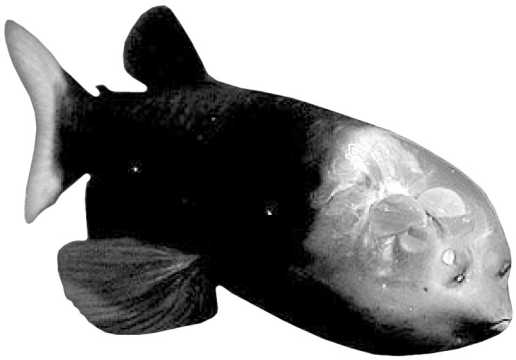
Q3

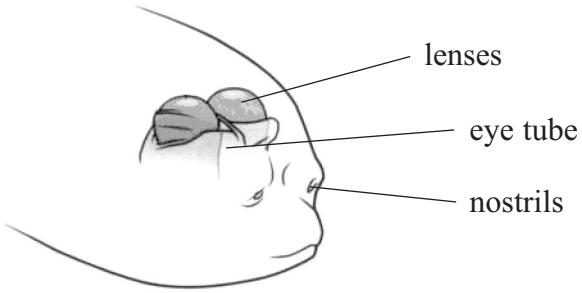
(Total 4 marks)

STEMUP.CO.UK

Leave blank

4. The barreleye fish lives in the deep ocean.
It has a transparent head with tube shaped eyes which face upwards.





(a) State **two** conditions in very deep seas that make it difficult for some organisms to survive.

1 .....

.....

2 .....

.....

(2)

(b) Most of the time, the barreleye fish remains motionless in the water.
Its eyes always look upward.

Suggest how these adaptations help the barreleye to survive at extreme depths in the deep seas.

.....

.....

.....

.....

.....

.....

(2) **Q4**

(Total 4 marks)

STEMUP.CO.UK

Leave blank

5. A mammal has 38 chromosomes in each of its body cells.

(a) How many chromosomes would each daughter cell have after one of these body cells has divided by

(i) mitosis .....

(1)

(ii) meiosis .....

(1)

(b) State the purpose of mitosis and meiosis in a mammal.

Mitosis .....

.....

.....

Meiosis .....

.....

.....

(2)

Q5

(Total 4 marks)

STEMUP.CO.UK

Leave blank

6. Some runners take deep breaths before the start of a sprint race but do not breathe while running.



(a) Describe how ventilation moves air into the lungs.

.....

.....

.....

.....

.....

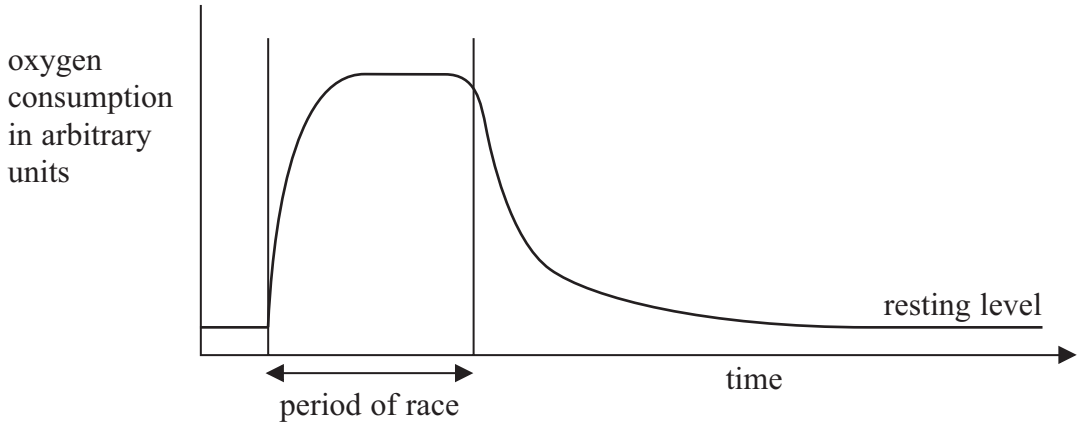
.....

(3)

STEMUP.CO.UK

Leave blank

(b) The graph shows how oxygen consumption changes before, during and after the sprint race.



Use scientific principles to explain the changes in oxygen consumption shown in the graph.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(5) **Q6**

(Total 8 marks)

TOTAL FOR PAPER: 30 MARKS

END

STEMUP.CO.UK

BLANK PAGE

STEMUP.CO.UK

BLANK PAGE

STEMUP.CO.UK

BLANK PAGE

STEMUP.CO.UK

edexcel

Mark Scheme (Results)

June 2011

360Science

GCSE Additional Science
Structured Paper B2 (5016H/1H)

GCSE Biology
Structured Paper B2 (5028H/1H)

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our website at www.edexcel.com.

If you have any subject specific questions about the content of this Mark Scheme that require the help of a subject specialist, you may find our **Ask The Expert** email service helpful.

Ask The Expert can be accessed online at the following link:
http://www.edexcel.com/Aboutus/contact-us/

Alternatively, you can contact our **Science Advisor** directly by sending an email to Stephen Nugus on ScienceSubjectAdvisor@edexcelexperts.co.uk.
You can also telephone 0844 576 0037 to speak to a member of our Subject Advisor team.

June 2011
Publications Code UG027270
All the material in this publication is copyright
© Edexcel Ltd 2011

5016H & 5028H Mark Scheme
June 2011

Question Number	Answer	Additional guidance	Mark
1(a)	Any **two** from: 1. they both rise overall ; 2. the number of cases of skin cancer in females is (always) greater than males / ORA ; 3. they rise and fall in similar/same way ; 4. credit any one correct comment on part of graph / correct ref to numbers comparing male / female ; they both peak in 1987 / 1987 to 1988 gap between males and females less towards the end / from 1997 to 1999	Accept: male and female lines both rise/ both show positive correlation Accept: the female line is (always) greater / higher than the male line Accept: identical	**(2)**

Question Number	Answer	Additional guidance	Mark
1(b)	(Amount of / type of) lichens / (Number of) peppered moth / (Number of cases of) asthma / other named indicators of air pollution ;	Accept melanic /normal forms of moth Accept: lung cancer Reject water pollution	**(1)**

Question Number	Answer	Additional guidance	Mark
2(a)	Any **two** from: 1. fix nitrogen / nitrogen fixing bacteria / rhizobium; 2. nitrogen from air / soil ; 3. to make ammonium ions / nitrate (ions) ; 4. (used by plant) to make proteins / DNA ;	 Reject: nitrifying / denitrifying (bacteria) Accept: use / absorb nitrogen Accept: ammonia Ignore refs to absorbing nitrates Ignore refs to absorbing water etc	**(2)**

Question Number	Answer	Additional guidance	Mark
2(b)	Any **two** from: 1. Plants decompose / decomposing bacteria /decomposers (decompose / decay leaves) ; 2. (proteins are changed into) ammonia ; 3. into nitrite (ions); 4. into nitrate (ions); 5. by nitrifying bacteria/named nitrifying bacteria ; 6. Credit points in nitrogen cycle beyond this eg nitrate ions are made (MP4) which may be changed back to nitrogen again by denitrifying bacteria ; NB: Marking point 6 can be awarded twice / for both available marks	 Accept: fungi for bacteria here	**(2)**

Question Number	Answer	Additional guidance	Mark
2(c)	Any **three** from: 1. nitrate (ions) build up / eutrophication ; 2. algal bloom ; 3. (blocks out sunlight so)less photosynthesis ; 4. algae/plants decompose/rot ; 5. (bacteria cause) oxygen depletion /oxygen levels decrease / oxygen concentration goes down 6. (low oxygen levels cause) biodiversity decreases;	Deduct one mark if significantly out of sequence Accept: descriptions – e.g. algae grow very fast / algae grows right over surface of water Ignore: plants die Accept: no oxygen Accept: (low oxygen levels cause) fish die Accept idea that a small increase in eutrophication can initially increase biodiversity	**(3)**

Question Number	Answer	Additional guidance	Mark
3(a)	carbon dioxide + water → ; glucose + oxygen ;	can be in either order Ignore refs to energy can be in either order Reject refs to energy Accept correct balanced symbol equation	**(2)**

Question Number	Answer	Additional guidance	Mark
3(b)	12 (hours) ;	Allow +/- 1 hour	**(1)**

Question Number	Answer	Additional guidance	Mark
3(c)	light / temperature ;	accept sunlight / warmth / water Ignore sun	**(1)**

Question Number	Answer	Additional guidance	Mark
4(a)	Any **two** from: 1. low light levels ; 2. high pressure ; 3. lack of food sources ; 4. very cold ; 5. low oxygen concentration;	Accept: dark/ no light Reject: no food Ignore: no oxygen Accept: refs to deep sea volcanic vents e.g. low pH, high sulphur, high acidity, (very) hot	**(2)**

Question Number	Answer	Additional guidance	Mark
4(b)	Any **two** from: 1. (motionless)results in less energy wasted / so that predators / prey less likely to detect it ; 2. large eyes for very little light ; 3. tube eyes to withstand pressure ; 4. eyes look upward because most of its predators / prey / food will be above it / light comes from above no point in looking down as too dark below;	Accept large (pectoral fins for stability / motionless / fast response ; Accept large nostrils to detect prey	**(2)**

Question Number	Answer	Additional guidance	Mark
5(a)(i)	38 ;		**(1)**

Question Number	Answer	Additional guidance	Mark
5(a)(ii)	19 ;		**(1)**

Question Number	Answer	Additional guidance	Mark
5(b)	(Mitosis is for) (production of) body cells / diploid cells /genetically identical cells growth / repair ; (meiosis is for) (production of) gametes / haploid cells/ **sexual** reproduction / genetic variation ;	Ignore cloning Ignore just 'cells' Reject asexual reproduction Accept sperm / egg / sex cells	**(2)**

Question Number	Answer	Additional guidance	Mark
6(a)	Any **three** from: 1. the diaphragm contracts / moves down ; 2. (external) intercostals /rib muscles contract ; 3. rib cage / ribs move **up** and **out** ; 4. volume of thoracic cavity / volume of chest / volume of lungs increases; 5. pressure (in lungs) decreases / pressure in lungs less than outside / <u>partial</u> vacuum / difference in pressure causes air to go in ; 6. increases oxygen concentration in the lungs / ;	Accept: diaphragm flattens Ignore: pulled down Ignore: lungs increase / get bigger / expand	**(3)**

Question Number	Answer	Additional guidance	Mark
6(b)	Any **five** from: 1. Oxygen consumption at start represents the resting metabolic rate; 2. (oxygen consumption rises) because muscles working harder ; 3. (more oxygen) being used for increased aerobic respiration / to release more energy ; 4. maximum rate of aerobic respiration reached (graph flattens out) ; 5. anaerobic respiration starts / increases (as the graph flattens out); 6. lactic acid made / builds up (in muscles) ; 7. After race, oxygen consumption still higher than resting / stays higher than resting ; 8. idea of oxygen debt being repaid / EPOC falling as oxygen consumption falls ;	Accept: more oxygen needed by muscles Accept: breathing rate / depth cannot increase any more (when graph flattens out) Reject: aerobic respiration stops / switches to anaerobic Accept: as lactic acid is broken down/oxidised oxygen consumption falls	**(5)**

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts NG18 4FN

Telephone 01623 467467
Fax 01623 450481
Email publication.orders@edexcel.com
Order Code UG027270 June 2011

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Rewarding Learning

STEMUP.CO.UK

edexcel
advancing learning, changing lives

Mark Scheme Summer 2009

GCSE

GCSE 360Science

Science (2101)
Additional Science (2103)
Biology (2105)
Chemistry (2107)
Physics (2109)

Edexcel Limited. Registered in England and Wales No. 4496750
Registered Office: One90 High Holborn, London WC1V 7BH

STEMUP.CO.UK

A PEARSON COMPANY

Additional Science 5016H/1H
Biology 5028H /1H
B2 Mark Scheme

Question Number	Answer	Additional guidance	Mark
1(a)	(sulphur dioxide emissions) fall / go down/decrease / show negative correlation;	Ignore: references to variations e.g. goes up in 1978/1979 Accept: gradual/steady decrease	**(1)**

Question Number	Answer	Additional guidance	Mark
1(b)	burning fossil fuels / burning named fossil fuel e.g. burn coal / gas fired power station ;	Ignore just factories /just power stations (could be nuclear) /just cars Accept compost heaps / car exhaust / driving cars / burning sulphur Reject deforestation	**(1)**

Question Number	Answer	Additional guidance	Mark
1(c)	**One from:** 10. Dissolves in /reacts with/ combines with/in rain / water (in the air) / moisture (in the air); 11. correct chemical details e.g. makes sulphuric acid; **Two from:** 12. reacts with minerals in soil so plants cannot use them ; 13. decreases pH of lakes /rivers / makes lakes /rivers acidic; 14. bad affect on / kills organisms in lakes / rivers ; 15. reduces biodiversity ; 16. removes cuticles from leaves /damages leaves / kills plants / trees; 17. corrosion of buildings / statues / limestone / marble / chalk / calcium carbonate / eq ; 18. MP6 makes CO_2 increases global warming;	Ignore: mixes / trapped / absorbed / contaminates the rain. Accept: clouds for rain Reject: increases pH Ignore: affects pH Accept: correct chemical / biological details of effects e.g. reduces mucus layer of fish /fish gills less able to absorb oxygen; Ignore: pollution Accept: dissolves Ignore: erodes / wears away / damages. Ignore other stones. Ignore: damages skin / cars	**(1)** **(2)** **maximum (3)**

Question Number	Answer	Additional guidance	Mark
2(a)	(External source of) fertilisers (e.g. runoff from farmland) / sewage /animal waste / tap water / decay;	Ignore: eutrophication	**(1)**

Question Number	Answer	Additional guidance	Mark
2(b)	**Two from:** 4. reduces light ; 5. so less/no photosynthesis / less glucose made; 6. plants die / kills plants / less / no growth;	Ignore: less oxygen, make food	**(2)**

Question Number	Answer	Additional guidance	Mark
2(c)	**Two from:** 4. Increase in numbers of microorganisms /bacteria / fungi / increase in amount of decay; 5. using/reducing oxygen (content of water); 6. (this causes)animals to die/move away to another area;	Accept: references to streams and rivers even though pond in question	**(2)**

Question Number	Answer	Additional guidance	Mark
3(a)(i)	increase **muscle** (growth) ;	Accept: Bigger /stronger **muscles** Ignore big/strong muscles Accept side-effects if correct and given here	**(1)**

Question Number	Answer	Additional guidance	Mark
3(a)(ii)	enhances performance/ win (more medals)/be better at their sport /be faster/be stronger/increased stamina;	Accept: Muscle strength increased if not awarded in 3ai	**(1)**

Question Number	Answer	Additional guidance	Mark
3(b)	**Two from:** 1. increased hormone/named hormone (e.g. oestrogen) production; 2. impotence (in men)/erectile disfunction/reduced testes size/reduced fertility (in men); 3. development of breast in men; 4. facial hair growth in women; 5. deepening of voice in women; 6. liver failure/damage; 7. heart disease/attack 8. kidney disease 9. stunted growth ignore aggression/addiction ignore muscle turns to fat when you stop using them	Ignore: heart problem	**(2)**

Question Number	Answer	Additional guidance	Mark
3(c)	gives an unfair advantage / causes harmful effects on athletes /causes side-effects on athletes/bad example for youths;	Accept: Its not fair/it is cheating	**(1)**

Question Number	Answer	Additional guidance	Mark
4(a)	stops contamination (of the product) / so no other (living) microorganisms present / stops (unwanted microorganisms) competing ;	Ignore: kill (all) microorganisms (as this is what the sterilisation process actually does) Ignore: clean/cleaning Accept: prevent other microorganisms entering Reject: removes bacteria	**(1)**

Question Number	Answer	Additional guidance	Mark
4(b)(i)	to stop unwanted microorganisms /viruses/bacteria entering;	Ignore: Contamination/ pollution/ substances/germs/ clean	**(1)**

Question Number	Answer	Additional guidance	Mark
4(b)(ii)	So (aerobic) respiration can take place / prevent anaerobic respiration / bubbles help mix contents / to ensure conditions throughout the fermenter are the same e.g. temperature/pH ;	Ignore: To breathe/to grow/ to supply oxygen/air	**(1)**

Question Number	Answer	Additional guidance	Mark
4(c)	(temperature / pH) probes /sensors/ exhaust gases examined / samples taken (from harvest outlet) ;	Ignore: computers	**(1)**

Question Number	Answer	Additional guidance	Mark
4(d)	to optimise growth / to control growth/ maximise yield / to switch on genes ORA – e.g. if temperature too high/low, the bacteria will not ferment the mixture ;	Accept 'best' for optimum Ignore: to keep everything level/to keep the conditions the same	**(1)**

Question Number	Answer	Additional guidance	Mark
5(a)(i)	three/3;	Accept: Eastern Asia,Western Asia and Northern Africa; any order	**(1)**

Question Number	Answer	Mark
5(a)(ii)	South eastern Asia ;	**(1)**

Question Number	Answer	Additional guidance	Mark
5(b)	Three from: 1. loss of habitat /places to live; 2. atmosphere CO2 levels increase (from burning/rotting/reduced photosynthesis) / increased global warming/greenhouse effect 3. increases soil erosion/increased leaching of minerals/nutrients ; 4. increases desertification; 5. rivers get silted; 6. (increased) flooding; 7. reduces biodiversity/ species /animals / plants become extinct;	Ignore: homes Ignore: references to oxygen Ignore animals die	**(3)**

Question Number	Answer	Additional guidance	Mark
6(a)	nucleus removed (from egg cell)/ enucleated ;	Reject: fertilise it Ignore use of enzymes Ignore DNA, genes, chromosomes	**(1)**

Question Number	Answer	Additional guidance	Mark
6(b)	1. body cell taken from a another sheep 2. nucleus removed (from body cell) 3. nucleus held on a pipette 4. nucleus inserted into (enucleated) egg 5. (egg cell) treated with chemicals / hormones / electric pulse 6. Grown into ball of cells / mitosis occurs / cells divide 7. implanted in (uterus of surrogate) mother / sheep If a point is clearly given in the wrong order e.g. electric shock after it is implanted then do not award the mark. However, credit remainder of response appropriately.	Ignore genes/DNA/chromosomes only once in part (b) Accept develop into an embryo If 'fertilise' or 'zygote' anywhere in part b) deduct 1 mark which then gives a maximum possible mark of 3	**(4)**

edexcel
advancing learning, changing lives

Mark Schemes March 2009

GCSE

360Science

Science (2101)
Additional Science (2103)
Biology (2105)
Chemistry (2107)
Physics (2109)

Edexcel Limited. Registered in England and Wales No. 4496750
Registered Office: One90 High Holborn, London WC1V 7BH

STEMUP.CO.UK

A PEARSON COMPANY

5016H / 5028H / 1H (B2) Mark Scheme

Question Number	Answer	Mark
1(a)	any time between 06:00 and 18:00 (inclusive)/ accept midday/noon;	**(1)**

Question Number	Answer	Mark
1(b)	any time between 04:00 and 05:00 (inclusive);	**(1)**

Question Number	Answer	Mark
1(c)	all the time/24 hours/00:00 – 00:00/ midnight to midnight/ all day;	**(1)**

Question Number	Answer	Mark
1(d)	**Two from:** 4. line similar shape but lower maximum ; 5. line indicates shorter day time length (must be within day length for summer as shown on question paper); 6. line indicates lower rate of respiration ;	**(2)**

Question Number	Answer	Mark
2(a)	unable to compete with human population/loss of habitat/deforestation/climate change/reduced food supply/hunting/poaching/disease/inability to find a mate/population fragmented/low reproduction rate ;	**(1)**

Question Number	Answer	Mark
2(b)	link up the different areas again/plant bamboo/ restrict access/ set up reserves/breeding programmes; (accept reverse answers from 2a)	**(1)**

Question Number	Answer	Mark
2(c)	Protection of / careful management of / maintaining the environment / habitat / ecosystem / natural resources; (as environmental conditions change/so species are protected)	**(1)**

Question Number	Answer	Mark
2(d)	to maintain biodiversity/maintain gene pool /prevent extinction ; accept answers related to maintaining food chains/interdependence of organisms	**(1)**

Question Number	Answer	Mark
3(a)	mitosis ;	**(1)**

Question Number	Answer	Mark
3(b)	differentiation ;	**(1)**

Question Number	Answer	Mark
3(c)	1. cells absorb water ; 2. get longer (accept bigger/expand) ; ignore refs to stretch/grow	**(2)**

Question Number	Answer	Mark
3(d)	temperature/light/water/carbon dioxide/oxygen (correct formula only) minerals/nutrients/hormones(auxins)/space/rate of photosynthesis/respiration ;	**(1)**

Question Number	Answer	Mark
4(a)	**A maximum of three from the following providing the context and order is correct:** 1. DNA unzips ; 2. coding strand ; 3. read in sets of three bases triplet (codon); 4. mRNA ; 5. ribosome's ; 6. tRNA ; 7. a triplet determines/codes for an amino acid in the protein ; 8. protein assembled from amino acids ;	**(3)**

Question Number	Answer	Mark
4(b)(i)	Insulin/enzymes (named enzyme) / mycoprotein/haemoglobin/human growth hormone/antibodies/penicillin/soya protein ; accept any other useful proteins that is produced by GM	**(1)**

Question Number	Answer	Mark
4(b)(ii)	**Two from:** 1. cultivated in a fermenter ; 2. optimum conditions 3. large increase in numbers (multiplying/growing rapidly ; 4. protein purified ignore "large amounts of (useful) protein obtained/produced as this is in the stem"	**(2)**

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>5(a)</td><td>These are 4 separate marking points
<table>
<tr><th></th><th>Mitosis</th><th>Meiosis</th></tr>
<tr><td>number of chromosomes in each cell at end of process</td><td>46(23 pairs)/full set/diploid/2n</td><td>23/ half set/haploid/ n</td></tr>
<tr><td>purpose of the process</td><td>Growth /repair/maintain genetic number/identical cells</td><td>Reproduction/gamete/production of sex cells/halve the genetic number/non identical cells</td></tr>
</table></td><td>(4)</td></tr>
</table>

Question Number	Answer	Mark
6(a)	**Three from:** **1.** Credit one correct reading from the graph e.g. 1900-1920 lower (than average)/ 1920-1955/60 higher (than average)/ trend increases from 1900-1935 trend decreases from 1935 to 1965 2. The trend is fluctuating (this mark can be awarded if increases **and** decreases have been stated correctly in marking point 1) 3.The overall trend is up Ignore misreading of scale which infers that 0 is an arctic temperature of 0^0 C, however mark point 2 (fluctuating) could still be awarded	**(3)**

Question Number	Answer	Mark
6(b)	**Two from:** 1. ice melting / raised **sea** levels/flooding; ignore refs to water levels rising 2. changes in ocean currents/changes in salinity/gulf stream/North Atlantic conveyor; 3. impact on (named) wildlife e.g. polar bear / seals / migration patterns ;	**(3)**