

Edexcel gcse



**ASSIGN
BUSTER**

Edexcel GCSE Biology/Science Unit B1: Influences on Life Foundation Tier

Tuesday 15 May 2012 — Morning Time: 1 hour You must have: Calculator, ruler Paper Reference 5BI1F/01 Total Marks Instructions Use black ink or ball-point pen. Fill in the boxes at the top of this page with your name, centre number and candidate number. Answer all questions. Answer the questions in the spaces provided — there may be more space than you need.

Information The total mark for this paper is 60. The marks for each question are shown in brackets — use this as a guide as to how much time to spend on each question. Questions labelled with an asterisk (*) are ones where the quality of your written communication will be assessed — you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions. Advice Read each question carefully before you start to answer it. Keep an eye on the time. Try to answer every question. Check your answers if you have time at the end.

Turn over P40238A ©2012 Pearson Education Ltd. 1/1/1/1/1/ *P40238A0120*

BLANK PAGE 2 *P40238A0220* Answer ALL questions. Some questions must be answered with a cross in a box . If you change your mind about an answer, put a line through the box and then mark your new answer with a cross . Classification 1 (a) Camels belong to the phylum Chordata. The drawing shows a dromedary camel that has the binomial name *Camelus dromedaries*. (i) Complete the sentence by putting a cross () in the box next to your answer. The second part of the binomial name, *dromedaries*, refers to the (1) A class B genus C order D species (ii) State one feature that all members of the phylum Chordata have in common.

(1)
.

.....
.....
.....
.....

..... *P40238A0320* 3 Turn over (iii) Members of the phylum Chordata can be further classified by how they regulate their body temperature. Reptiles are poikilothermic and mammals are homeothermic. Explain how reptiles and mammals regulate their body temperature. (2)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

..... (b) Scientists classify organisms into five different kingdoms. Draw one straight line from each description to its correct kingdom. (2) description kingdom Animalia unicellular with nucleus present Plantae Fungi Protocista multicellular and photosynthetic Prokaryotes 4 *P40238A0420* (c) Viruses are not classified into any of the five kingdoms. Suggest reasons for this. (2)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

..... (Total for Question 1 = 8 marks) *P40238A0520* 5 Turn over Reaction times 2 (a) The

reaction times of some athletes were measured at the Beijing Olympics in the final of the 100 metres sprint. athlete reaction time / s overall race time / s Bolt: Usain 0. 165 9. 69 Burns: Marc 0. 145 10. 01 Dix: Walter 0. 133 9. 91 Frater: Michael 0. 147 9. 97 Martina: Churandy 0. 169 9. 93 Patton: Darvis 0. 142 10. 03 Powell: Asafa 0. 134 9. 95 Thompson: Richard 0. 133 9. 89 (i)

Complete the sentence by putting a cross (X) in the box next to your answer. The athlete with the slowest reaction time is (1) A Bolt: Usain B Martina: Churandy C Patton: Darvis D Thompson: Richard (ii) Name the athlete who finished the 100 metres sprint in the fastest time.

(1)
.....
.....

..... 6 *P40238A0620* (iii) Calculate the difference between the

overall race time of the fastest athlete and slowest athlete. (2) answer = s (b) The athlete starts to run when a gun is fired. (i) State the athlete’s sense organ that detects this stimulus.

(1)

.....

..... (ii) Describe the nerve pathway a nerve impulse will take from where it is received to where it will cause a response to take place. (3)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... (Total for Question 2 = 8 marks)

P40238A0720 7 Turn over Mistletoe plants 3 The photograph shows a mistletoe plant growing on a tree. The mistletoe plant uses nutrients from the tree. This can cause the tree to die. (a) (i) Complete the sentence by putting a cross () in the box next to your answer. The relationship between the mistletoe plant and the tree is an example of (1) A mutualism B parasitism C phototropism D symbiosis (ii) The mistletoe plant also gains energy from sunlight to produce glucose. State the name of this process.

(1)
.....
.....

..... (b) The mistletoe plant produces fruit that contains seeds. The Mistle Thrush is a bird that spreads these mistletoe seeds to other trees. (i) Suggest how the Mistle Thrush spreads the mistletoe seeds to other trees.

(2)
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

.....
 8 *P40238A0820* (ii) Sparrowhawks are birds that are predators of the Mistle Thrush. The diagram shows the energy values in the food chain for these organisms. mistletoe plant 1000 J Mistle Thrush Sparrowhawk 200 J 20 J Calculate the percentage of energy that was passed from the mistletoe plant to the Mistle Thrush. (2) answer

= % (iii) Draw a pyramid of energy for this food chain. (2) (iv) Suggest two ways in that energy is lost from this food chain. (2)

1

2

..... (Total for Question 3 = 10 marks) *P40238A0920* 9 Turn over

Homeostasis 4 If a person is to survive, the internal environment of their body must be controlled. (a) The volume of water in the blood can be controlled. This is called osmoregulation. The table shows the volume of

urine produced by six different people on a hot day and on a cold day.

person volume of urine produced / cm³ hot day cold day
1 430 890 2 350

1060 3 270 930 4 560 1280 5 400 680 6 390 1160 mean 1000

(i) Calculate the mean volume of urine produced on the hot day. (1) answer

= cm³ (ii) State the difference

between the mean volume of urine produced on the hot day and the mean volume of urine produced on the cold day.

(1)
.....
.....
.....
.....
.....
.....

..... 10 *P40238A01020* (iii) Explain why, on a hot day, less water is lost from the body as urine.

(2)
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

.....

.....