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General Certificate of Secondary Education

Science B 4462 / Biology 4411

BLY1F Unit Biology 1

Report on the Examination

2012 examination – June series

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Science B / Biology
Foundation Tier BLY1F

General

There were eight questions on the paper. The first six questions appeared only on the Foundation Tier and were targeted at grades E, F and G. The final two questions (termed Standard Demand) were common to Foundation and Higher Tiers. These were targeted at grades C and D.
Students should be advised to write in black ink or black ball point pen only as the scanning process involved in on-line marking does not pick up pale colours well. Furthermore students should be advised to ensure that if their answers extend beyond the printed lines or space then they should keep these extensions away from the edges of the page as they may be removed during scanning.
Many examiners expressed concern about illegible handwriting this year. Although it is a small percentage, students should be aware that if the examiner cannot read the script they will not be awarded any marks for that part.
Fundamental knowledge and understanding of How Science Works in the world at large were tested throughout this paper. This means that students should be reminded that it is essential to read all of the question carefully, analyse the information provided and think about their response before writing their answer.

Question 1 *(Low Demand)*

In all three parts, most students were able to recognise the adaptation, but weaker students failed to describe how the adaptation protected the organism. Frequently the students simply repeated the stem of the question ‘stops the animal eating it’.

Question 2 *(Low Demand)*

(a) Most students correctly identified the information for the painkiller, but there was the usual confusion between antitoxin and antibiotic.

(b) Many weaker students’ answers such as, a small amount of antibody / antitoxin / liquid for the content of a vaccine. The R of MMR did not provide a clue for the correct answer as many students gave the answer chicken pox. Rabies was another common response.

Question 3 *(Low Demand)*

(a) It was surprising how many students could not add up 33+3+3+1 to arrive at the total 40. These students received no marks for this part of the question.

(b) The more able students usually gave good examples such as the melting of glaciers / ice caps and the rise in sea levels. Weaker students ignored the fact that temperature rise appeared in the stem of the question and answered in terms of global warming or the greenhouse effect. A small proportion gave answers in terms of pollution and the ozone layer.

Question 4 *(Low Demand)*

(a) There was the usual confusion between genes and characteristics, and between asexual and sexual reproduction.

(b) (i) Many students merely wrote asexual reproduction without giving another method. Other common answers included cloning, genetic engineering and even seeds.

(b) (ii) Here students simply resorted to 'cloning' whilst others gave sexual methods.

Question 5 *(Low Demand)*

(a) A majority of students gave the correct information for oestrogen, but there was much confusion between the roles of FSH and LH.

(b) (i) Most students correctly gave 'implant' and these students usually answered correctly in **part (ii)** in terms of 'can't forget to take it'. Others thought that the implant was most reliable because it was inserted by professionals or that women could get pregnant during the seven days they were not taking the pill.

(b) (ii) Most students gave correct answers in terms of the procedure needing surgery or that 'you would have to wait five years to become pregnant'.

Question 6 *(Standard Demand)*

(a) Arthritis, diabetes and heart disease were all common correct answers but weaker students often, surprisingly, referred to kidney disease.

(a) (i) Weaker students often correctly added up the number of volunteers, but then showed that they had no idea how to calculate a proportion. In part (ii) many students simply stated that 'the drug worked' or 'it gave good results' rather than answering in terms of the majority of the volunteers losing mass.

Question 7 *(Standard Demand)*

(a) The stages in drug testing were not well known by the majority of students. Few got beyond the function of the placebo. There were practically no correct answers for the tests on humans using small quantities of the drug.

(b) Most students gained at least one mark for stating that the effect on humans might not be the same as the effect on mice. Weaker students often answered in terms of the effects of caffeine on the body and how it stimulates the brain. Many students thought the caffeine was causing the Alzheimer's and others simply quoted extracts from the text without explaining why the headline was not justified.

Question 8 *(Standard Demand)*

A number of students did not understand what an ancestor was. Some students obviously could not follow this evolutionary tree especially where there were broken / discontinuous branches.

(a) Most students lost marks by not attempting to give accurate answers, being content with 3 or 4 million years ago.

(b) The most common error was Australopithecus spp. Weaker students resorted to cavemen and even dinosaurs.

(c) The varied answers showed the difficulty many students had in following this evolutionary tree.

(d) Common misconceptions demonstrated included 'Chinese have been around for more than 2 million years', 'the other 200 fossils are still to be found', 'ancestors come after the organism'.

(e) The most common correct responses referred to religious reasons or to insufficient evidence. Common non-creditworthy responses included lack of modern tools or technology to find evidence or that there was no evidence. There were very few references to the lack of status of Darwin or to the lack of knowledge of mechanism of inheritance.

Grade boundaries and cumulative percentage grades are available on the **Results statistics** page of the AQA website

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