Examiners' Report
Principal Examiner Feedback

October 2017

Pearson Edexcel International Advanced Level In Biology (WBI01) Paper 1 Lifestyle, Transport, Genes and Health

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

October 2017
Publications Code WBI01_01_1710_ER

General Introduction

This paper tested knowledge and understanding of two AS topics-'Lifestyle, health and risk' and 'Genes and health'. Elements of How Science works were also examined. There was a good range of topics and questions which provided students with sufficient opportunity to demonstrate their ability. All questions achieved the full spread of marks and there were very few instances of questions not being attempted.

It was pleasing to see that many students coped well in areas demanding a good level of recall from several areas of the specification. Level of detail given allowed many students to score highly in QWC questions. There were very few penalties given for poor quality of written communication where students were required to order answers in a logical sequence. Similarly, the core practical on *Daphnia* showed a good level of recall and detail.

Some students seemed to launch into questions before reading them in detail and time was wasted simply repeating the stem of the question which is not creditworthy.

Many students had clearly made good use of past papers and mark schemes. However, it should be noted that specification principles need to be related to the context of the actual question, not just repeated verbatim.

Question 1(a)

Many students gained both marks.

Question 1(d)

Many good responses were seen with a pleasing level of detail. For example, there were clear descriptions of enzyme substrate complexes and the lowering of activation energy.

Question 2(c)(i)

The majority of students were able to gain one mark by correctly measuring the length of X-Y but only a few were able to use this figure to then calculate the thickness of the tissues.

Question 2(c)(ii)

Most students gained this mark

Question 3(a)

This question was similar to questions asked previously and many students gained two marks. However, some referred to the whole phospholipid bilayer being fluid rather than just the phospholipids and so did not gain marking point 1.

Question 3(c)(i)

Many students gained the maximum four available marks here. Marking point 3 was not awarded if they referred to the membrane being semi/partially permeable.

Question 3(c)(ii)

Students that read the stem of the questions carefully were able to make a reasonable attempt at this question. For marking point 1, the idea that the proteins in the membrane were denatured was required. A few students incorrectly named enzymes or the membrane as a whole or talked about proteins being "destroyed".

Question 4(a)

This was a straightforward question which proved accessible to students with the majority gaining both marks.

Question 4(b)(i)

Students coped well with this calculation based question with many gaining both available marks.

Question 4(b)(ii)

Most students were able to correctly state, or describe, the relationship between selenium levels and BMI.

Question 4(b)(iii)

Very well answered in general, though some students mistakenly talked about height to weight ratio.

Question 4(c)(ii)

Students who read the question correctly scored highly here. A few simply described the trends shown in the graph, without relating their answers to scientific knowledge. Those that did relate it to knowledge showed a pleasing level of detail and tended to gain all three of the available marks.

Question 5(a)

This question proved to be a very good discriminator. Students were asked to compare the circulatory systems of a frog and human and were provided with a diagram to help them do so. Some students did not write in comparative terms or use the diagram given effectively. They rarely scored full marks. However, students who read the question properly were able to access all available marks.

Question 5(b)

This was also a question which required students to apply their scientific knowledge rather than simply repeat it. Many students answered incorrectly by repeating everything they knew about gas exchange surfaces but not relating it to the lungs of humans or frogs specifically. Higher level answers talked about the frog circuit having mixing/no being separated and then related this to a steeper concentration gradient being a consequence of this. This question also proved to be a good discriminator particularly for grade A students.

Question 5(c)

This was a QWC question with the emphasis on clarity of expression. Again, students who carefully read the question, rather than repeating knowledge straight from the specification, were able to gain all five available marks. The key here was that the valves needed to be correctly related to their role in the various stages of the cardiac cycle. Hence those who simply recalled everything they knew about valves scored poorly. A pleasing number of students were, however, able to write fluently and with a good depth of knowledge and gained four or five marks.

Question 6(a)(i)

This question related to one of the core practicals about *Daphnia*, and it was gratifying to see that many students were able to transfer their knowledge to an unfamiliar situation. They were able to describe the experimental technique required correctly and in detail. Some students however, continue to confuse heart beat with heart rate, or use the term “heart beat rate”.

Question 6(a)(ii)

Few students gained full marks here. There was a tendency to simply describe trends in the graph without comparison to the control and figures were often quoted rather than manipulated.

Question 6(b)(i)

The majority of students gained marking point 1 but fewer were able to link this to a correct explanation.

Question 6(b)(ii)

This question was well answered with many students able to correctly predict the effect of and name another sugar.

Question 7(a)(i) and (ii)

A good level of recall shown with most students answering both questions correctly.

Question 7(b)

This is a commonly tested topic but instead of the traditional Punnett Square, students were asked to draw a pedigree diagram. Many managed this well with a lot gaining full marks.

Question 7(c)(i)

Very well answered.

Question 7(c)(ii)

This was a recall type QWC question with the emphasis on logical sequence. Many students showed a pleasing level of depth and subject knowledge and were able to gain full marks.

Question 8(a)

The majority of students were able to easily gain two, if not three marks here with good recall shown.

Question 8(b)

Few students gained full marks here. Most were able to gain marking point one for stating the correct relationship between prothrombin concentration and clotting time. Fewer were able to extend this knowledge to a correct explanation.

Question 8(c)(i)

Few students gained three marks here and struggled to use the information in the table to describe the relationship between mutation and heart attack in a concise manner.

Question 8(c)(ii)

Many students gained marking points 1 and 2 but very few gained other marking points.

Paper Summary

Based on their performance on this paper, students are offered the following advice:

- Read the whole question carefully before attempting to answer
- Try not to repeat information given in the stem of the question as an introduction to your answer
- Make sure answers are written comparatively where this is necessary
- Manipulate data in graph questions, rather than just quoting figures
- Ensure that longer answers include enough statements for the number of marks available
- Include sketches and diagrams in answers where they would help to illustrate a point
- Organise answers with clarity and in a logical sequence for QWC questions
- Take care with time management-attempting past papers will help with this.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

http://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom