AQA

AS MATHEMATICS

Unit Decision 1
Report on the Examination

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General

Most students were able to attempt all the questions, but a significant number did not attempt parts of question 6.

Although students were well prepared for the algorithms, the responses to interpretations of results were not of the same standard.

Students should recognise that marks may be lost if their work is illegible, which is a particular risk on this unit, given the nature of the annotations required on some diagrams.

Even the best students lost some marks on the paper due to basic arithmetic errors and poor interpretation of the results obtained.

Question 1

This question was well answered. The common error was that students failed to list their final matching.

Question 2

This question proved to be a good discriminator.

In part (a), many students ignored the instruction in bold and rearranged the list into ascending order. Furthermore, a significant number of students used a different sort.

Although all students made reasonable attempts at part (b), very few scored full marks. Students were unsure as to whether a strict inequality was required.

Question 3

Part (a) was poorly answered by the majority of students. The instructions clearly stated that non-integers were to be given to three decimal places. Questions on algorithms require students to follow instructions precisely.

In part (b), the majority of students realised that F was a 'stopping condition'.

Question 4

Part (a) was well answered by the majority of students.

In part (b), students realised the implication of visiting C first, but many failed to find the shortest route from C to L, with '91' being a popular incorrect answer.

Question 5

There were many very good complete solutions to this question.

In part (a), some students lost marks by careless arithmetic errors. In part (ii), many students gave an incorrect answer of 250.

In part (b), the majority of students scored full marks. The common error was students' giving A and K as the start/finish vertices, as these were the vertices associated with the shortest 'route' of 45.

Question 6

A significant number of students did not attempt part (a), and those who did often fared quite poorly. The majority of students were unable to handle the loop at A.

Part (b) was poorly answered by the majority of students.

In part (c), students showed a lack of understanding of graph theory and assumed that the question related to a complete graph.

Question 7

Part (a) was well answered by the majority of students. The common error was failing to show the order in which **all** towns were selected.

In part (b), the majority of students correctly gave AG as the first edge to be added, but very few were able to give the correct answer of FP to part (ii).

Part (c) was well answered by the majority of students.

Question 8

Part (a) was well answered by the majority of students. The common error was failing to return to D.

In part (b), although the majority of students knew the algorithm, many failed to give the edges needed and merely gave a list of numbers.

Part (c) was poorly answered by the majority of students. Students often failed to relate their answers to the context of the question. There were also confusions regarding the use of strict inequalities.

Question 9

Most students were able to make reasonable attempts to each part of this question but full marks were rarely seen.

In part (a), most students gained the first two marks, but then a significant number struggled to find the correct second inequality involving x and y, and so lost the final mark.

In part (b)(i), the majority of students gave fully correct responses. This was a great improvement on similar demands on previous papers.

In part (b)(ii), most students picked up the first two marks for being able to draw the 2 given lines, but a significant number then struggled to make further progress.

Part (c) proved to be a good discriminator. There was a significant improvement in the drawing of an objective line. Many students failed to identify the minimum point and of those who had a correct point, many failed to give their answer in context.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results Statistics page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

UMS conversion calculator www.aqa.org.uk/umsconversion