

Examiner reports

Q1.

Two thirds of students failed to gain the mark for (a) although some of these responses were very close. Students generally described resolution as the ability to... rather than describe it being the minimum distance between two objects to still see them as separate objects.

In (b), approximately half of students gained one mark for stating that electron microscopes use electrons but only a small proportion went on to explain that electrons have a shorter wavelength to gain the second mark.

Only a third of responses were awarded one mark for (c). The remainder did not convert units correctly and so could not gain this mark.

In (d), less than half of students were able to state that (electro)magnets are used to focus electrons.

In (e), students had to correctly name the type of microscope to use in a given context and give a reason for their choice. It is possible that students were running out of time whilst answering this question, as many responses were left incomplete or with gaps. Weaker responses confused the difference between the applications of TEM and SEM.

There were a number of unanswered responses to (f) and of those who attempted this question, approximately half gained the mark. Weaker responses to this question just stated that artefacts are 'things' that ruin or block the image or described them as 'black dots' without referring to why they are present or describing that they are not part of the natural specimen.

EXAM PAPERS PRACTICE