

Arkwright Examiners' Report for the Aptitude Paper sat on Wednesday 4th February 2009

All three questions proved to be popular this year.

The Examiners are looking for quality not quantity. Candidates should be discouraged from producing too many pages, a maximum of 4 A3 sheets is expected.

Specifications

This section continues to be well answered by a majority of candidates. Good candidates covered materials and ergonomics as well as function and produced well justified specifications. This area is worth 15 marks and a weak specification ie, **one lacking qualifying reasons**, can disadvantage candidates throughout the whole paper as well as in this section.

Design Ideas

Only a few candidates produced a wide range of possible solutions, most giving three different ideas. They developed and described ideas and their thought processes were evident from supporting annotation. A greater variety of concepts is encouraged generally in order to maximise marks in this section. Many candidates failed to produce evaluative comments to their ideas. Comments should refer to specification points.

It is at this stage that flair in a wide range of solutions is being looked for by the examiners rather than fully developed design solutions.

Final Solution

This should stand out from the initial ideas and deal with the key issues outlined in the mark scheme. There were a few excellent responses where candidates brought ideas together to produce a well thought out final solution. A few candidates failed to include possible dimensions. The weaker responses failed to include important details e.g. selection of appropriate materials and construction methodology and tended to only reproduce a sketch from the ideas. Candidates should not re-draw views previously offered, but present new and extended details in this section

The strongest scripts showed evidence of cross referencing the developed idea with the identified needs of the product as set out in the specification.

Communication

It is possible to gain full marks for communication by producing a range of 2D and 3D drawings. Annotation is essential and should link back to the specification and should not be only descriptive.

There is no requirement to use colour but its use can enhance the overall quality of the answer, although this should not be at the expense of detailed development.

Q1 . Rubbish Bin Compactor

There were some very imaginative solutions but others lacked ingenuity and would have been impractical for many householders, particularly the elderly or infirm. Some candidates misinterpreted the question and redesigned the bin creating compartments for separating recycled materials.

Q2 . Table Tennis Server

This question produced a wide range of innovative solutions for the projection system of the table tennis ball. A few candidates however, failed to show any delivery system and focussed on the outer casing and stand.

Q3 . Skip Loading Device

The most popular question attempted which did produce a range of solutions, although many candidates simply redesigned a ramp of greater sophistication.