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## **Administration**

It is pleasing to note that the majority of centres complied with AQA's instructions relating to the collation, packaging and dispatching of scripts.

A number of candidates contravened the regulations with regard to the use of the colour of ink employed to record their answers. Black ink or black ball-point pen should be used for written answers. Candidates should also be reminded to write their responses within the space allocated on the paper.

## **General**

There was evidence of the use of the preliminary material by centres when preparing their candidates for the examination. The use of the preliminary material is intended to give the candidates 'ownership' of their paper. It allows them to produce real and valid responses based on work done in the weeks before the examination. Where centres had made good use of the preliminary material, their candidates invariably went on to produce good quality designs.

Teachers should emphasise good examination techniques to their candidates, in particular the need to read and re-read each question carefully before attempting it.

The longer questions show where the marks are awarded and candidates would be advised to refer to this when answering the question.

They should also be taught to use any 'spare' time at the end of the examination to carefully go through both the questions and their answers.

## **Question 1**

The first section of this question was well answered. Many candidates gained full marks by suggesting considerations and what information they would find from each source. They invariably went on to expand their answers to provide suitable explanations. The requirements were also well answered by most. Marks were lost for single word answers.

## **Question 2**

A full range of responses were seen. Marks were lost by not showing how each bulleted requirement in the question would be fulfilled. Whilst full engineering drawings are not required, candidates need to use sufficient detail in their sketches to show that they have a workable solution.

Teachers should emphasise the need for the need to use the correct terms and names for the systems as given in the specification, and also the requirement for neat, simple sketches.

## **Question 3**

The identification of the types of motion was well answered by most; however few candidates could show a mechanism that converted rotary to oscillating motion. Candidates fared slightly better at transferring rotary motion through 90° and most could change the speed of rotation. Marks were lost due to poor sketching or incomplete labelling making it difficult to fully understand their response.

#### **Question 4**

There was a range of responses to the wiper mechanism and again, teachers should remind their students the need for clear sketches in response to questions.

The CAM design was well answered but the switched 'OR' circuit was not. Common mistakes included 'shorting' the power supply or the motor.

#### **Question 5**

The Health & Safety requirements were well answered but few candidates gave a suitable component to operate the valve. The transistor circuit was poorly answered and only a few candidates added the diode to the relay coil for full marks.

The flowchart questions were generally well answered but marks were lost by candidates simply copying out the text in the flowchart symbols when asked to describe the subroutines operation.

#### **Question 6**

Most candidates could identify the common component symbols but few named all of them correctly. Candidates should be reminded that all symbols are printed in the specification. The calculation questions were generally well answered but marks were lost by not fully naming the 'electrolytic capacitor'.

#### **Question 7**

There was a full range of responses to this question with most candidates attempting all parts. The description of how to find faults examined the candidates 'Quality of Written Communication'. This was generally good but candidates lost marks by only discussing one or two methods of fault finding.

Teachers and candidates are reminded of the need for good English, particularly in the questions with extended written responses.

### **Mark Ranges and Award of Grades**

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