

## **METALWORK**

### **SUBJECT 6045**

#### **PAPER 1**

#### **GENERAL COMMENTS**

The question was of the same difficulty as compared to last year.

#### **QUESTION PAPER ANALYSIS**

The paper was relevant for O-Level candidates covering the syllabus. The questioning technique was vivid. Time allocated for the paper was within range especially Section C where there were many solutions required.

#### **QUESTION BY QUESTION ANALYSIS**

##### **QUESTION 1**

Most candidates did not have problems in answering 1 (a). Question 1 (b) (ii) and (iii) were poorly answered by the candidates.

##### **QUESTION 2**

Overall performance on this question was poor as most pupils failed to identify the filing process to produce the R10. Part (b) of the question was relatively well answered by some of the candidates. Most of the candidates failed to describe the process of bluing. Painting blue was the most common answer given by the candidates.

##### **QUESTION 3**

Performance by candidates was mediocre. The majority of the candidates managed to illustrate a burred chisel well. Some candidates failed to provide correct answers to how to restore a burred chisel.

##### **QUESTION 4**

Question 4 (a) was poorly done by most candidates. However, few managed to draw the pulleys in the correct position for a  $\phi$  3mm drill bit. Question 4 (b) was well answered by some candidates. In some centres, candidates were not able to draw pulley arrangement for a  $\phi$  3mm drill bit.

##### **QUESTION 5**

Few candidates attempted this question. The few who answered it managed to answer part (a) and safety precautions only.

### **QUESTION 6**

Very few candidates attempted this question and amongst those who attempted the majority wrote on filing.

### **QUESTION 7**

Only a few attempted. The few who attempted failed to answer the question.

### **QUESTION 8**

This was a very popular question with the candidates. The majority of the candidates answered this question. Generally, it can be said that this is one of the questions where candidates were able to provide correct answers to most parts of the question. Some candidates were, however, unable to name the half moon stake and round bottom stake correctly.

For example, some candidates named the half moon stake as a chisel. Although responses to part (b) were reasonably satisfactory, some candidates had difficulties in illustrating clearly how a creasing hammer is used.

### **QUESTION 9**

This was one of the most popular questions amongst some centres. Most candidates answered correctly part A of the question. However, a greater number of candidates failed to answer part (b) of this questioning correctly. Candidates were unable to list the stages to be followed when lighting the oxy-acetylene equipment correctly. On part (c) safety rules given by candidates were not applicable to the use of welding equipment. In addition, candidates were unable to state two aspects to be considered when selecting a welding joint.

### **QUESTION 10**

Another very popular question amongst most centres. Candidates who attempted this question managed to answer all parts of the question correctly. However a few candidates did not manage to name the hot set and cold set correctly. Some named the cold set as a hot set while the hot set was named as a cold set. Part (e) of the question was also not answered very well by some of the candidates. Most of the candidates who answered this part of the question were unable to state the uses of the bosh and the tue.

## QUESTION 11

This was also another popular question amongst most centres. Overall performance of the candidates who attempted this question was mediocre. Most candidates were able to give the blacksmith formula for calculating the length of the metal required was also done correctly. However, a smaller number of candidates were unable to give the correct formula correctly. For example some candidates gave the formula as  $4D + 3T$  instead of  $3D + 4T$ . Only one candidate managed to answer Part C of this question correctly. While the rest of the candidates failed the appropriate rule required for forgework was a brass rule as it does not get affected by heat.

## QUESTION 12

(a) The question was appropriate for O-Level candidates. Most candidates indicated a bolt and nut riveting as a means of joining Part H to Part D. In some cases, the use of bolt and nut did not allow for swivelling as there was no allowance for clearance between the hole and the bolt. However, a few candidates managed to give room for allowance for clearance.

(b) (i) A Tommy bar was the most popular solution among most centres. A few candidates indicated Knurling as an alternative solution.

Use of threads was the most common solution although a few had a different approach. Most solutions provided were quite functional.

(c) The question was correctly answered. Most candidates' solutions were functional. The use of a nut and wing nut was very common solution. Most candidates threaded Part E and introduced a nut.

(d) This part of the question proved to be difficult as the majority of the candidates failed to come up with an effective means of attaching the swivelling shoe. Some candidates actually drew an ordinary shoe as a means of a swivelling shoe. However, one centre managed to provide exceptional solution such as the use of rounded plate attached by means of a ball joint.

## QUESTION 13

A greater number of the candidates drew the views in isometric projection instead of orthographic projection. In some centres, this question was poorly done. However, some centres managed to provide correct solutions and scored most of the marks. The most common missing aspects on most drawings were: centre lines and dimensions.