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FOREWORD

This booklet contains reports written by Examiners on the work of candidates in certain papers. **Its contents are primarily for the information of the subject teachers concerned.**

GEOMETRICAL AND MECHANICAL DRAWING

GCE Advanced Level and GCE Advanced Subsidiary Level

<p>Paper 9351/01 Applied Geometry</p>

General comments

Very few candidates took the examination.

The standard of work presented was the same as in previous years.

Comments on specific questions

Section I

Compulsory questions

Question 1

Most candidates were able to construct the pentagon and the octagon correctly, but few were able to apply a suitable construction for the square.

Question 2

This question was answered badly. Candidates drew the given view correctly and projected the auxiliary view perpendicular to the given front view, but failed to complete the auxiliary view accurately. Most solutions showed an accurate statement of the area of face F.

Question 3

Most candidates made a satisfactory attempt at this question and showed an understanding of the construction needed to draw the plate after it had been formed to shape. Marks were lost for an inaccurate width of the plate and for an inaccurate top edge of the required view.

Question 4

This question was answered well with most candidates gaining high marks. The principal weakness was the failure to divide the 56 millimetre circle into the required ratio.

Section II

Optional questions

Question 5

Almost all candidates drew the given view and constructed the outline of the cam accurately. Surprisingly, the relatively straightforward locus was answered less well.

Nevertheless, generally high marks were gained for this question.

Question 6

By comparison, this question was answered badly.

The top edge of the pyramid was often incorrect in the plan view, face D in the plan was usually incorrect and although some marks were gained for the basic construction for the development of the complete pyramid, the remaining construction was inaccurate. In addition, the cap to cover the end C was often omitted.

The line of intersection between the pyramid and the cylinder was however usually completed accurately.

Question 7

There were some very good answers to this isometric view question. Some candidates, however, failed to draw a scrap view showing the side view of the bracket and subsequently failed to produce an accurate outline of the vertical web in the pictorial view.

Question 8

Insufficient candidates attempted this question to allow relevant comment.

Question 9

There were few completely accurate screw threads shown.

The auxiliary view, including the outline of the parabola, was completed more accurately.

<p>Paper 9351/02 Drawing (Engineering)</p>
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General comments

The majority of candidates demonstrated a reasonably good understanding of the correct procedure for assembling the components of the Clutch System. It was pleasing to see that many candidates were prepared to invest time and effort in producing a sketch view of the assembled components, before attempting to complete the drawings required by the questions.

However, a number of candidates failed to produce any responses to the design features required to complete the Clutch System, and as such failed to access the marks available for this section. Where the design elements were attempted, solutions were often presented with little in the way of supporting annotated sketches to fully explain the candidate's reasoning with regard to sizes, materials and methods of fixing.

On a more positive note, there was good evidence that drawing standards in terms of the quality of line, layout of views and projections between views, together with the use of accepted drawing conventions such as centre lines and section plane lines, have continued to improve.

Comments on specific questions

Question 1

- (a) The sectional elevation was attempted reasonably well by the majority of candidates, with most components being drawn accurately in shape and detail. However, a number of candidates failed to show the Arms in a vertical position, as required by the question, which then made for a difficult projection to view (b).

The process of hatching the sectional view was usually undertaken with some measure of skill, demonstrating a recognition for the need to ensure high levels of presentation by the majority of candidates.

- (b) The majority of candidates were less successful in completing the half-sectional end view than they had been in completing the sectional elevation. While most found no difficulty with completing the outline detail, many failed to include all the required components in the sectioned half of this view. Details of the Arms, and the inner spigots of the Thrust Carrier, were common omissions.

Question 2

The majority of candidates were able to draw correctly the symbol of projection, although in a small number of cases, the symbol drawn did not match the system of projection used in completing the required views.

Question 3

The majority of candidates managed to produce the required Parts List and to identify the major components of the clutch system together with the materials from which each would have been produced. The methods used to identify components on the drawn views were often untidy.