EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Geometrical and Mechanical Drawing 7040/2

PAPER 2

Tuesday 3 NOVEMBER 2015

Additional materials:
A2 Drawing paper (1 sheet)
Standard drawing equipment

Time: 2 hours 40 minutes **Marks: 100**

Instructions to candidates

Print your **name**, **centre number** and **candidate number** in the Title Block at the bottom right-hand side of your drawing paper.

There are **two (2)** questions in this paper. Answer **both** questions.

Use **both** sides of the drawing paper for your answers.

Information for candidates

The number of marks is given in brackets [ ] at the end of each question or part question.
The insert contains **Figure 2** for Section 2.
You have an additional **10 minutes** to read carefully the text of Section 2 before answering the questions.

Arcs of circles less than **5mm radius** may be drawn freehand.
All dimensions are in millimetres unless otherwise stated.

Cell phones are not allowed in the examination room.

Answer the question **from Section 1 on one side** of the drawing paper and that **from Section 2 on the other side.**

All dimensions are in **millimetres.**

SECTION 1 (16 MARKS)

Candidates are advised to spend not more than **20 minutes** on this section of the paper:

1 Orthographic views of a BRACKET are shown in First Angle Projection in **Figure 1.** Sketch freehand and in good proportion, a pictorial view of the bracket with 'C' in the foreground of the view.

The use of instruments, including any form of straight edge, when constructing the view or when lining up will be heavily penalised. Faint construction lines and points used when construction the view should not be erased.

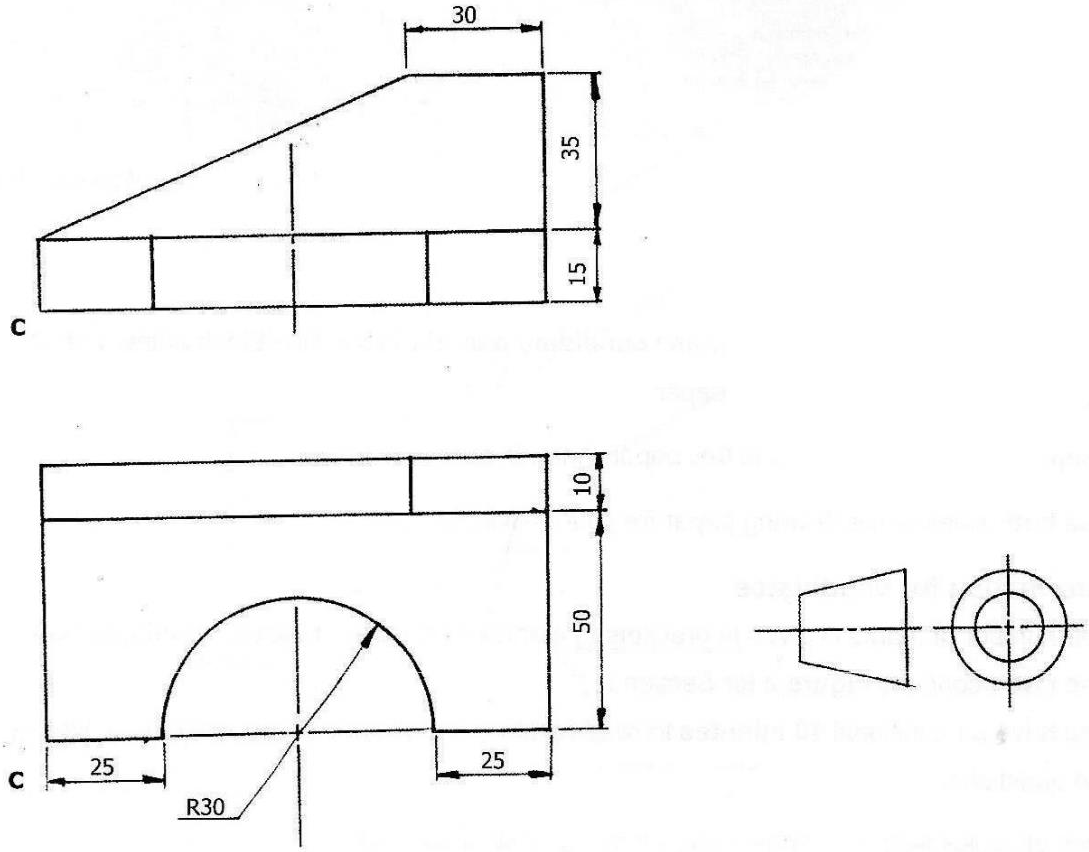

Figure 1

SECTION 2 (84 MARKS)

2 **Figure 2** on the insert shows details of a **SLIDE** on the lathe machine in Third Angle Projection.

The components are assembled as follows:

The machined **spindle** ③ is inserted into the 30mm square hole of the **slide** ① from under in the dovetail slot until it flushes. The **tool holder** ② is then placed on top of the slide with the four M8 holes on top until the two components are in contact. The **washer** ⑦ is then placed on to the M10 part of the spindle.

The **Handle** ⑤ is screwed onto the M6 hole of the **cap** ④ after which the cap is tightened on the M10 portion of the spindle until tight.

Finally, the four **M8 Hexagonal bolts** ⑥ are screwed into the four M8 threaded holes of the tool holder.

With the components assembled as above, showing only one bolt on the far left and the handle in the horizontal position to the right, draw full size in **either First Angle or Third Angle** Projection,

(a) A Sectional Front Elevation, the plane of the section and the direction of the required view being indicated by X – X in the plan view of the main body.

(b) A plan as viewed arrow P.

Hidden detail is not required in any view. Suitable dimensions should be estimated where not provided.

In the lower right-hand corner of the drawing paper and on the same side as you have drawn the above views, , draw a title block. Print in this block your **name, examination number, the title, the scale and indicate the projection** you have used by using the appropriate British Standard symbol.

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INSERT

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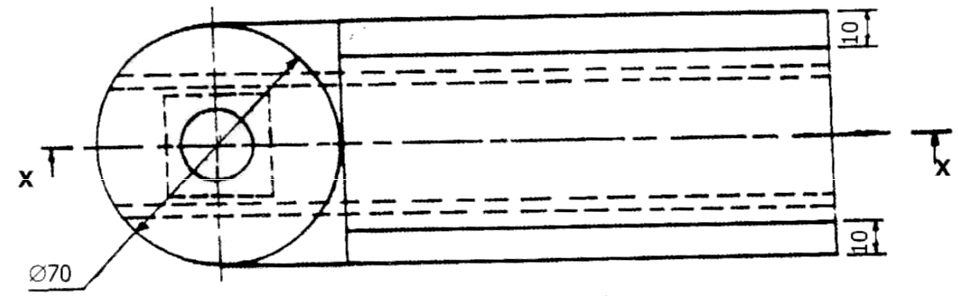
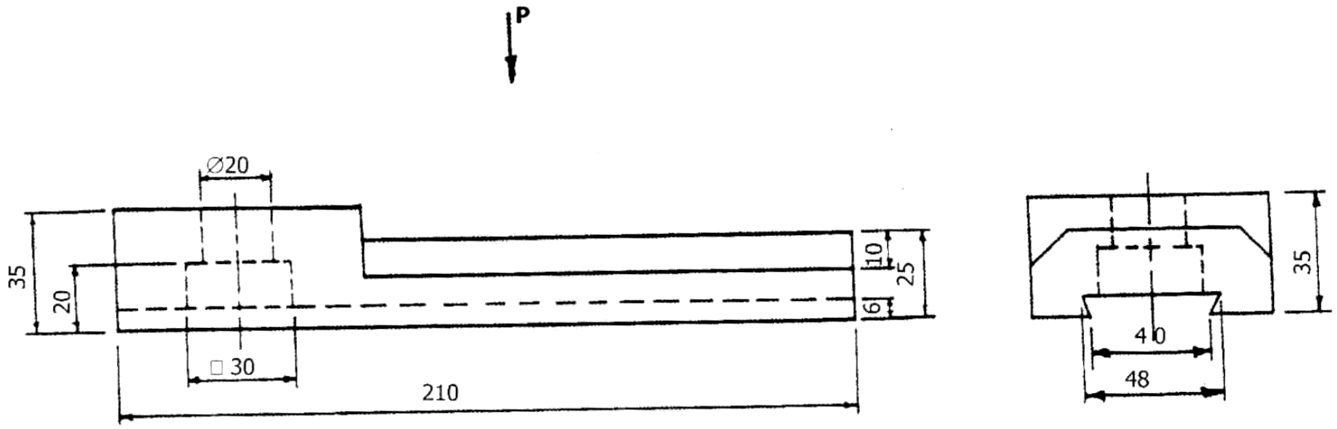
This insert consists of 3 printed pages.

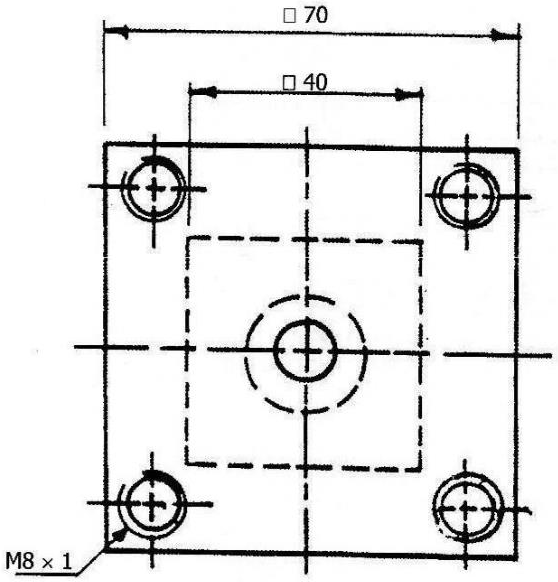




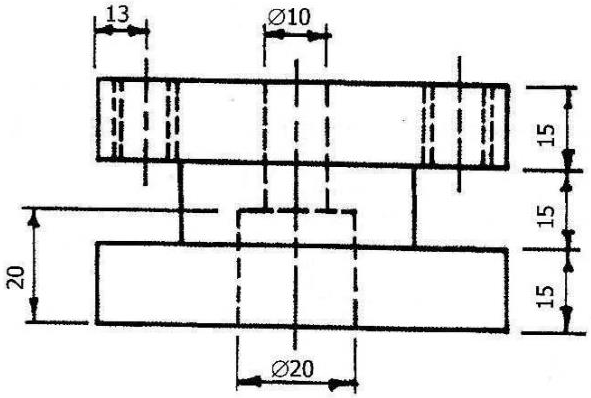
1 **SLIDE**
1 REQUIRED

6 **BOLT**
4 REQUIRED

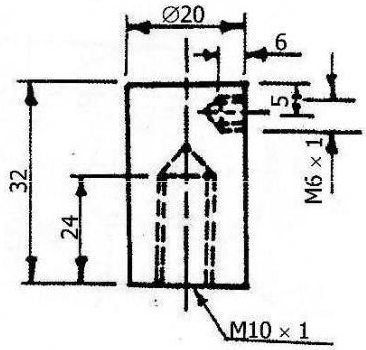
FIGURE 2



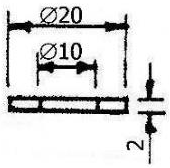
2 **TOOL HOLDER**
1 REQUIRED



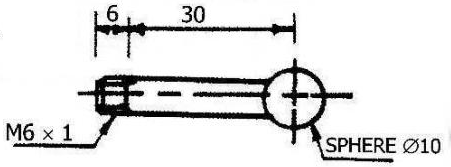
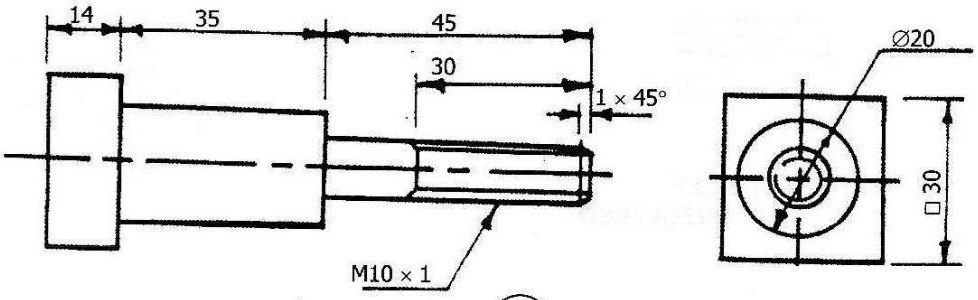
4 **CAP**
1 REQUIRED



7 **WASHER**
1 REQUIRED



5 **HANDLE**
1 REQUIRED



3 **SPINDLE**
1 REQUIRED