

# EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

## Geometrical and Mechanical Drawing Paper 2

7040/2

Monday

27 NOVEMBER 2017

**Additional Material(s):**

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.

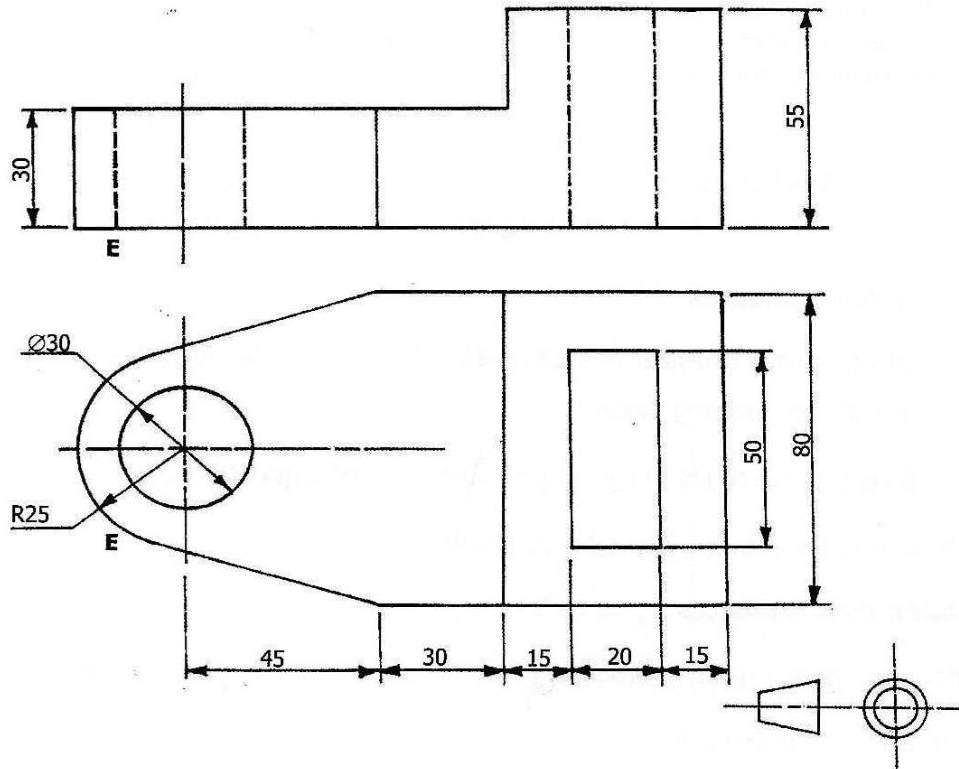
**Cell phones are not allowed in the examination room.**

**Section 1 (16 marks)**

Candidates are advised to spend not more than **30 minutes** on this section of the paper:

- 1** Two orthographic views of an **ANGLE BRACKET** are shown in **Figure 1**.  
Do Not copy the views but sketch freehand and in good proportion a pictorial view of the bracket with **E** in the foreground of the view.

NB: The use of instruments including any form of straight edge when sketching the view or when lining in will be heavily PENALISED.



**Figure 1**

**Section 2 (84 marks)**

**2** **Figure 2** shows in **First Angle Projection** details of the components of a **PULLEY AND BODY ASSEMBLY** which are assembled as follows:

The **Bush** ③ is inserted into the 26mm diameter hole of the **Pulley** ② until it lies flush on both ends. This sub-assembly is placed in between the bases of the **Body** ① so that 20∅ holes are in alignment.

The **Bolt** ④ is then inserted through the 20mm hole of the body from the left-hand side until its head is in contact with the body thereby supporting the pulley in position. The Bolt is then secured by the **Washer** ⑤ and Hexagonal **Nut** ⑥.

With the components assembled as detailed above, draw full size the following views in either **first** or **third angle projection**.

- (a) A Sectional Front elevation, with plane of section and direction of the required view being indicated at **X – X** on the end elevation .
- (b) A plan as seen in the direction of arrow **P**.

**NOTE:** No end elevation is required.

- Suitable dimensions should be estimated where data is not provided. No Hidden details or part lines are required in any view.
  - Insert four dimensions as recommended BS 308. These should be of varied character and should include the following: length, height, diameter, details of a Nut or Bolt.
- (c) In the lower right hand side of the drawing paper and on the same side on which you have drawn the solution to question 2, draw the **Title block** and print in it the following details: the Title, your name, Examination number and scale used. Indicate by standard symbol the method of projection used.

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## Geometrical and Mechanical Drawing

## 7040/2

### Paper 2

**INSERT**

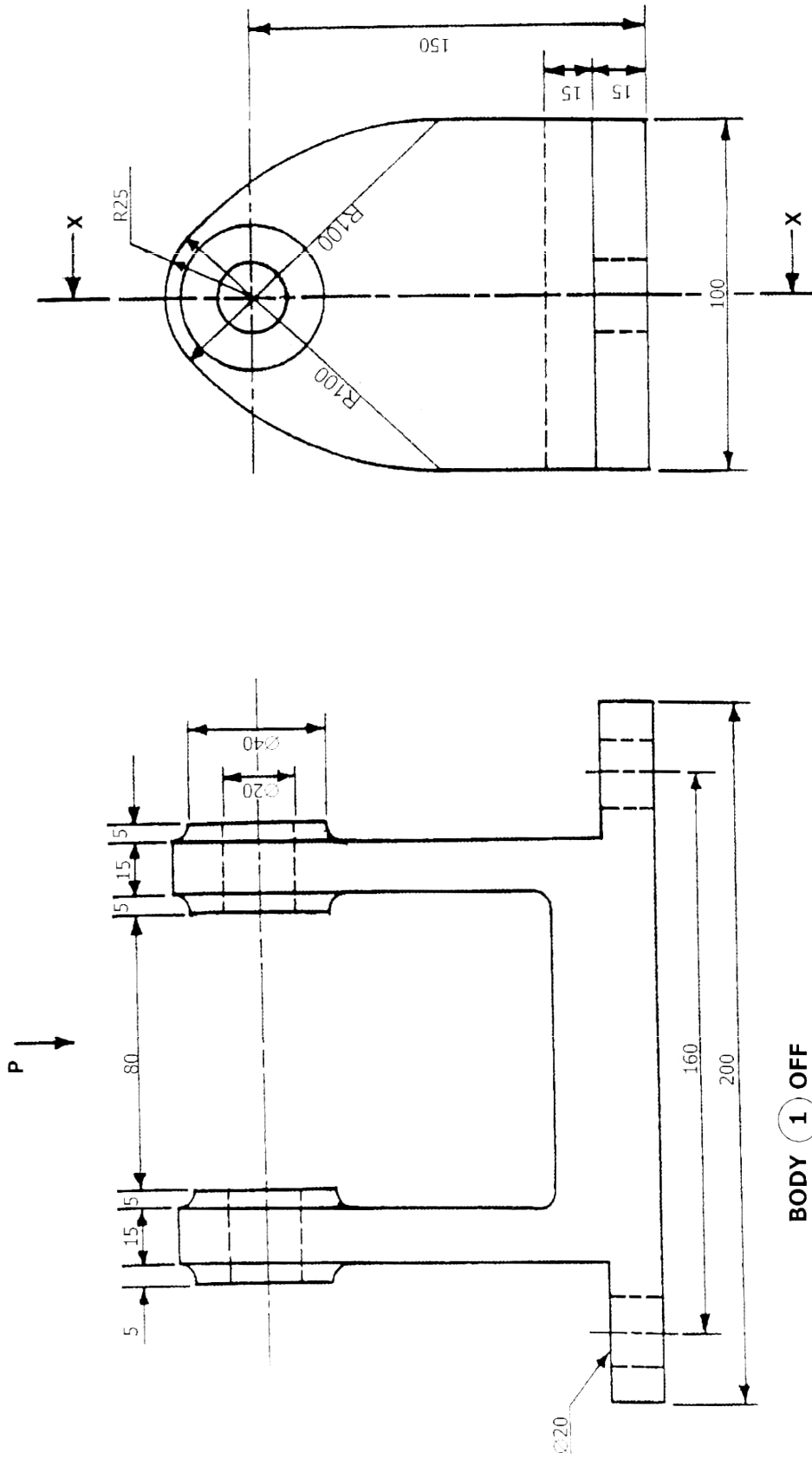
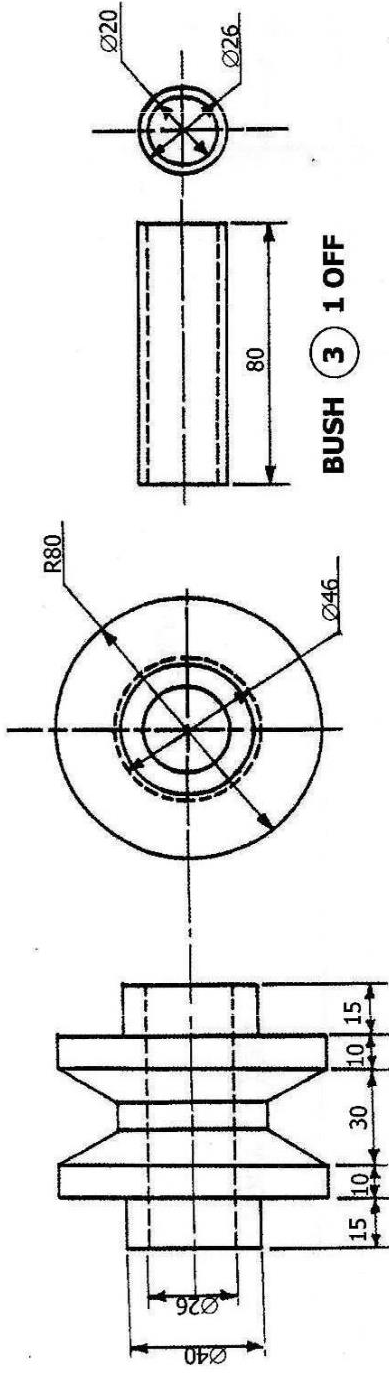
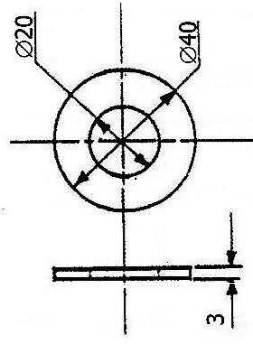


Figure 2

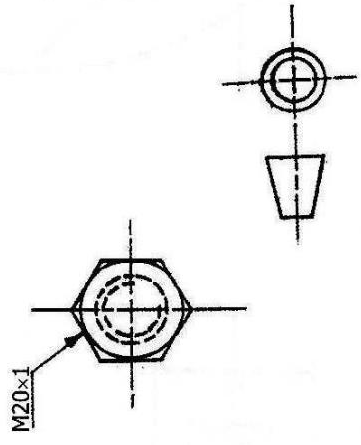


**PULLEY 2 1 OFF**

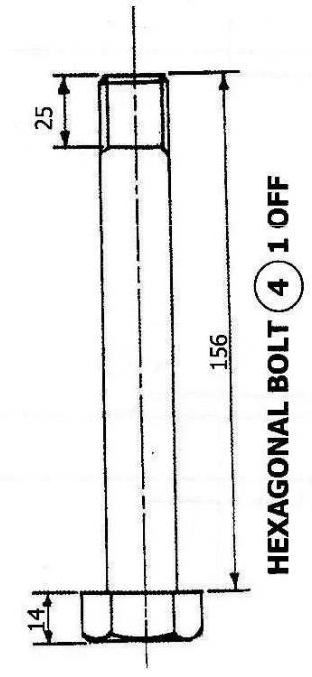
**BUSH 3 1 OFF**



**WASHER 5 1 OFF**



**HEXAGONAL NUT 6 1 OFF**



**HEXAGONAL BOLT 4 1 OFF**